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A Crackpot's Notebook
Volume One

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A Crackpot's Notebook, Volume One

Scott Reeves

Introduction

This present volume is a drastic expansion of my previous book, *Temporogravitism and Other Speculations of a Crackpot*. I've placed the material from that previous book at the end of this new volume, which consists of the material I've written over the past few years. I'm segregating it that way because with my older material, I was trying to throw out relativity even while keeping relativistic nonsense like time dilation, length contraction, etc. I've since come to the conclusion that I don't need to keep those relativistic phenomena as I try to develop new theories, because I now believe those phenomena are nonexistent and are as ridiculous as relativity itself. If I don't believe in relativity, why keep those phenomena that stem from it? Especially when I believe the supposed physical evidence for those phenomena is as questionable as the theory itself. And I firmly believe that posterity will agree with me. So keep in mind, when you reach the latter half of this book, that I no longer subscribe to most of what I wrote at the time. There are certain parts I do agree with, and which I think may be jumping off points for further development, but I disagree with most of it. But I'm not going to say which is which.

This volume is mainly intended for my own use, as a “central repository” for my ideas, that I can come back to for study, or to pick up idea threads that I might have forgotten or may forget about.

There is really no order to this book. You can pick it up and start reading pretty much anywhere and not worry that you've missed anything crucial earlier on. The first half of this book is literally just ideas and notes I have jotted down over the past few years. Most of the passages are just a few paragraphs or pages long. Line breaks separate passages that were written at earlier or later times than other passages. Some of the passages expand upon or are connected to previous passages, moreso than in the latter half of the book (the *Temporogravitism* section). But I think all the passages are self-contained enough to be readable in isolation. And in many cases, any given passage may have absolutely nothing to do with the other passages. The new portion of this book is literally just a documentation of my thoughts on physics at any given moment, and should be read as such. Some ideas may seem completely ludicrous, and I myself may have abandoned them. But I've written them down, simply because they occurred to me, and I may find use for them in the future. Who knows? At any rate, no idea is too outrageous for me to feel embarrassed about and so withhold from this “notebook.” Even the greatest among us have wacky ideas from time to time. I don't shy away from them. Wacky ideas are sometimes the source of progress, and any mistakes or inconsistencies are simply the path to more coherent understanding.

There are also, in various passages such as my rants against relativity, that, taken at face value, would seem to show that I obviously do not understand relativity or certain other physical principles, despite my

attestations that I do. There are passages where I accuse relativity of saying things that it obviously does not say. I am aware of these passages, and that they inaccurately present relativity. So why do I not delete them? Why leave them herein, to make me look like an ignorant fool? I leave them in because maybe later I will find something of the truth in them, or use them to reconstruct thought pathways that led me to a particular destination. These inaccurate passages arise because a lot of these passages are actual thoughts that I write down as they occur to me and I'm developing them, to preserve them, without giving them much more than cursory consideration at that moment. I'm oftentimes trying to capture an elusive thought, concept or idea that has occurred to me, and I'm more interested in preserving it in writing than I am in the absolute accuracy of the physics. It's when I return to them moments or hours, or even days, perhaps years, later, that I recognize the flaw in what I'm saying. But I will not delete the offending passages, for the above reasons. I do not plan these passages to be wholly accurate and consistent; I consider them more like repositories for my spontaneous thoughts to which I will return later for deeper consideration. So keep that in mind when you're reading this, if your first reaction is, "What? That's not relativity's position at all. This guy doesn't know what he's talking about." Despite some of these errors or misstatements, I believe the overall point is still valid: relativity is invalid.

Well, enough for now. Just keep the above in mind as you're reading.

Where relativity goes wrong: the assertion that simultaneity is relative, and that all observers will measure the same speed of light, regardless of their state of motion.

The only proof that can be offered in support of the second assertion is that of high-speed particles giving off light that is measured to be the same as light from stationary sources. But this does not prove the assertion. The only proof that can be offered in support of the second assertion can only prove that the speed of light is independent of the state of motion of the source, which fact I'm not contesting. The only way to prove the assertion that the speed of light is the same for all observers regardless of their state of motion, is to accelerate an observer to a significant fraction of light speed and then measure light's speed. But since such acceleration is currently beyond us, relativity's assertion remains unproven.

The main proof of this second assertion lies in thought experiments, presented by Einstein himself using a train moving relative to an embankment, which are also used to prove the first assertion. As I outline below, these thought experiments are logically inconsistent and therefore the conclusions drawn from them are fallacious.

The supposed time dilation of relativity arises when an observer on a rocket shines a light at the forward cabin and measures the distance the light travels before striking the forward wall, and an outside observer measures the same path traversed by the light and finds it to be greater due to the forward motion of the rocket. Since both must measure the light beam as having the same speed, the outside observer must conclude that the person inside the rocket also measured a smaller amount of time. Therefore time must pass more slowly for objects in motion.

This conclusion, stemming from precisely the above outlined thought experiment, is foolish. In both cases, the light has traversed the same distance. It doesn't matter that the person inside the rocket might not know he is in motion; the inability of any conscious observer to determine an absolute frame of rest doesn't matter; nature does not take the ignorance of conscious beings into account in determining how much distance a light beam has traversed. In the case of the rocket above, the light has traversed the same distance through space regardless of the "frame of reference" of whoever decides to do a little measuring.

As an example, let's say that alongside our rocket, the outside observer shines a light in the same direction as the rocket's travel, at the same time that the person in the rocket shines a light at the forward wall. Now, at the instant the beam of light inside the rocket hits the forward wall, the beam of light outside has traversed the same distance through space as the beam inside the rocket, regardless of who does the measuring, because *the rocket enclosing the beam is irrelevant once the light is emitted from its source*. This is obvious from the well known Doppler effect, redshifts and blueshifts. Once the beam has left the emitter inside the rocket, both the beam inside and the beam outside are on equal ground, so to speak. This is a consequence of the invariance of the speed of light. Compare the path of both beams and you will find them the same length. They are completely superimposable one upon the other. Just

because the observer inside the rocket, utterly ignorant of the outside universe, measures the distance from the emitter to the front wall and comes up with a shorter measurement than the observer measuring the outside beam, doesn't mean that time has become "dilated" due to the supposed difference in distances and the constancy of the velocity of light. Einstein asserts that because c is constant, and both observers measure different distances, their times must therefore also be different. But the distances are not different. The path of both beams, as can be shown, are equal, therefore the times cannot be different. Time is not "dilated" in the case of the rocket. The observer in the rocket cannot alter objective fact due to his inaccurate measurement. Nature does not care about his inaccurate measurement; nature is not affected by his measurement.

Let's now suppose the observer in the rocket is standing on the hull of his rocket. Let's further suppose that there is nothing external to him by which he is able to gauge his motion, so that he believes he is at rest. He measures the light beam traveling alongside his ship, and finds that the length it traverses from stem to stern matches the length of the beam inside his ship. Of course he will find the same path lengths, since in both cases he is using his ship as a reference.

But still, from both perspectives, that of the rocket ship and that of the stationary observer, the two light beams have the same length, as is obvious from their superimposeability. That the observer in the rocket has a length measurement that differs from the stationary observer, makes no objective difference. Einstein, however, believes that it does, and because of the need to maintain the constancy of light speed from all frames of reference, he uses this supposed difference in measurement to construct his theory of relativity claiming that time is dilated for one observer due to his "shorter" measurement.

In reality the calculations are merely shaving off the velocity of the rocket and moving it elsewhere in the equation, sort of "sweeping it under the rug."

But I'm claiming that the light beams are the same length in all cases, regardless of the chosen frame of reference. If the paths are, objectively, superimposable, then what does it matter if we can obtain millions of different measurements, from millions of different reference frames? These millions of different reference frames are the arbitrary constructions of conscious beings. Nature, lacking the consciousness to recognize the difference, will treat the same light beam as having the same length. So if there is time dilation arising due to motion, it must arise due to a different mechanism than Einstein posits, namely that there is a difference in measurement. Because there is no objective difference, to nature. If we are to maintain Einstein's relativity, then we must show why consciousness could affect the physical nature of time.

The nearest analogy I can think of involves one of those 3d picture books you can purchase in any bookstore. Each page contains an image that at first glance looks ordinary, or like a jumbled mess. But when you cross your eyes and stare carefully, a 3-dimensional image jumps off the page at you. Nothing about the book or the images on the pages have changed. Your perception has merely been altered so that you, in effect, are seeing the images from a different perspective. But neither the book nor the images

have been physically altered in any way. They persist in the same state regardless of which way you look at them. With relativity, Einstein would have us make the same sort of error we would make were we to believe that the book and its images had actually been physically altered due to our change in perception.

In other words, if we are to maintain Einstein's relativity, then we must conclude that nature is somehow aware that consciousness is involved in the motion and physically alters the conscious being's physical experience of time, i.e. that nature is aware of the frame of reference of the conscious being, because it clearly takes a consciousness to determine that the length of the light beam's path in the rocket differs from the length of the same light beam as measured from an outside observer. But experiments that show that atomic particles have longer lives when accelerated to near light-speed would seem to show that consciousness is not required. So the conclusions of Einstein's relativity must be false, and although his theory has enjoyed experimental success, such success has come despite flawed reasoning, much in the way that a detective's investigation of a murder may lead him to the correct perpetrator even if his understanding of the perpetrator's motive later proves to be inaccurate.

Now, if we do abandon Einstein's relativity, this still leaves us with the problem of the constant velocity of light. The reason why both observers measure the same velocity for light, even if one is motionless and the other is moving at close to light speed, still needs to be explored. But Einstein's assertion, that relativity solves the problem by making time relative, does not hold. Because time can only be relative if the measured distance is relative, and, as illustrated above, the supposed difference arises from a fallacy of measurement, and in reality there is no difference in the light path. The measurements *are* relative, but that relativity has no objective reality. That relativity is a mere trick of thought, similar to an optical illusion.

The gist of what I am trying to say by all the foregoing is that Einstein tried to solve the incompatibility between the constancy of the velocity of the propagation of light and the theorem of the addition of velocities by claiming that time is variable, and that, as I have perhaps inadequately tried to explain, he was unsuccessful. The incompatibility still remains. In his attempt he claimed that separate observers in relative motion will measure different lengths for the path of the same light beam, which, if time were constant, would give us differing speeds of light. To avoid this, he says that time is not constant. His theory rests on this difference in measurements. As I believe there is no objective difference, his theory fails to achieve the reconciliation that was its goal.

Now, what he has actually done, if time dilation actually occurs due to a difference in measurement, is to show that conscious awareness somehow enters into the picture. Because it shouldn't matter, objectively, that different frames of reference will measure different lengths for the path of the light beam. He has provided us a possible link between quantum mechanics and relativity, by exposing a "measurement problem" that may share an underlying cause with the "measurement problem" in quantum mechanics. This link may be the starting point toward achieving the much sought-after reconciliation between science's two biggest, incompatible theories.

Someone might object by saying, “In your ranting against relativity you’ve only been considering the light on the first leg of its journey. If we add on the second leg, namely the portion where the light bounces off the mirror at the front of the rocket and reflects back toward the rocket’s observer, even as the outside beam is similarly reflected back at the stationary observer, the rocket’s observer measures a shorter distance, because he is rushing toward the light and so hits the return beam before the stationary observer gets hit by his own. Therefore the lengths of the beams *are* different, so the time measurement will differ, as both observers must measure the same speed for light.”

Even this objection is in error. The measurements are not the same because the conditions of the experiment differ. The path of the beams may differ in such a case, but the difference is because one beam is interrupted in its journey back. If it had been allowed to continue back to its point of origin, the distances are still equal. Once the light beam leaves the emitter, it is independent of the rocket. Its point of origin becomes “frozen” in place far behind the rocket; the origin does not move forward with the emitter. The only valid measurement would be if we were to measure the beam back to its true source, the “frozen” source that is now far behind the rocket.

Let’s look at it in another way. Two scientists, on Earth in the same reference frame, are conducting an experiment to measure the speed of light. Both observers shine their lights at the front wall of their respective labs, where a mirror hangs. The light hits the mirror and reflects back toward the emitter. But suppose, in its journey back, the light beam in one lab is intercepted, blocked, by a piece of cardboard that has, for whatever reason, suddenly interposed itself between the returning light beam and the emitter. The light beam of the second scientist has successfully returned to the emitter. Now, when they compare notes, is the first scientist going to say, “My light beam traveled a shorter distance than yours, therefore my time must be dilated.” Of course not! There’s no comparison between the two results, because one measurement was interfered with. Yet with relativity, Einstein would have us say that the observer in the speeding rocket validly measured a shorter distance than the stationary observer. Because the situation I have outlined above is the exact situation that lies behind relativity.

A skeptic can raise another objection by throwing at me this classic thought experiment associated with relativity: suppose the observer in the speeding rocket stands at the midpoint of his rocket and shines a light toward the fore and the aft walls at the same time. He sees the flashes hit the wall at the same time, because light travels at the same speed in both cases. So the rocket’s observer declares both beams hit the wall at the same time. No problem here, right? But suppose we now look at it from the viewpoint of a stationary observer. Since the observer is moving forward relative to me, then according to me the rearward traveling light beam will hit the aft wall first since it is rushing toward the beam, while the forward traveling beam will hit the forward wall second, since it is receding from the beam. So we have a discrepancy, since the rocket’s observer declares the two events simultaneous, while I declare them not. This is the crux of the thought experiment Einstein uses to conclude that simultaneity is relative, and thus there can be no universal now, all times are relative.

But I say there is no disagreement here. In relativity's thought experiment, the full round trip path of the light beams are used to illustrate the rocket observer's viewpoint. In other words, the light beams travel fore and aft, are reflected back to the observer, where he declares them simultaneous. We must stress this: when relativity says "the observer sees the light beams hit the wall simultaneously," what this means is that the light beam hits the wall and is reflected back upon its path, returning to the position of the observer, who sees both returning beams at the same time, declaring the events simultaneous. So relativity is here taking into account the full round-trip path of both beams. Now, then, turning to the case of the stationary observer, relativity has the beams hit the fore and aft walls at different times, and stops there, and concludes that a disagreement as to simultaneity exists. But this stopping point is invalid, because the experiment is unequal. In one measurement, the beams are followed all the way back to their source, while in the other, they're only followed halfway. For this to be a valid thought experiment, the stationary observer must follow the beams back to their source as well, and *then* compare. When we do so, there is no disagreement. In both cases, the results are the same: the events in question, namely the striking of the fore and aft walls by the light beam, are not simultaneous from either reference frame. Consider: both light beams leave their source at the midpoint, traveling fore and aft. The rearward beam hits the aft wall first, since the aft wall is racing toward the beam. The forward beam hits the forward wall second, because that wall is receding. The beams are then reflected back. The aft beam has a longer path to follow in returning to the observer, because the observer is now receding from it, even as he is hurtling toward the forward beam, which has a shorter path to reach the observer. But, since the aft beam hit the wall first, it reflected back first. So even though it has a longer path to follow, it had a head start that compensates for the forward beam's shorter path. Both beams thus reach the observer at the same time, whereupon he concludes the beams hit the walls at the same time. By following the light beam round-trip, we *can* see that the rocket's observer will see both beams hit the walls at the same time. But we can also see that his conclusion is in error, from both reference frames, either he realizes it or not. His ignorance of the matter has no physical consequences, even though we can see how his ignorance arises. From both reference frames, the light hits the walls at different times, but they return to the midpoint at the same time. Relativity errs by using the former event from one frame and the latter event from another frame and claiming its comparing the same event when it actually isn't.

The light beams travel the same round-trip distance, from whatever reference frame you choose to use. The forward light beam travels a longer path on its outward journey and a shorter on its return (reflection), while the aft beam travels a shorter path on its outward and a longer on its return (reflection). But the overall paths are obviously equal.

The skeptic shakes his head and says, "Scott, Scott, all you're saying in all your separate tirades is that the light beam does not change; it remains traveling at a constant speed, which is exactly what relativity says: so you're agreeing with relativity without even realizing it, which is pretty stupid of you."

But: I am *not* agreeing with relativity. Relativity is uses erroneous logic to draw conclusions such as

the relativity of simultaneity and time dilation. I reject utterly the relativity of simultaneity as I've explained above. There is no difference in the measure of the distance traveled by the light in any case you can throw at me. As for time dilation, if it is occurring, relativity has derived it through an erroneous path of explanation. It has inadvertently stumbled upon a natural phenomenon. In other words, it reached a right answer for all the wrong reasons. *If* time dilation is truly occurring.

Let me raise one further thought experiment. Let's go back to the case of the observer in the speeding rocket shining his light toward the front of the cabin. If time is not dilated, then he should measure a decreased velocity of light due to his forward velocity. Round trip, he will measure the proper velocity, since the light beam takes less time coming back than it does going forward, were time not dilated. But: if time is not dilated, he would measure a lesser velocity of light in just the forward direction. So if time is not dilated, then any way I look at it, I must concede that he is measuring a reduced velocity of light, which is supposedly impossible. And I concede that point.

So: if I concede that light must have a constant velocity no matter the speed of the observer, and I reject that both time dilation and the relativity of simultaneity, then I am left with the puzzle that Einstein hoped to solve with relativity: namely, the constant velocity of light irrespective of the speed of the observer.

So what I've been basically saying all along, like relativity, is that the light beam doesn't change. Rather, the relationship of the observer to the light beam changes. Unlike relativity, I have a differing view of the exact nature of that change in relationship. Relativity's view of, and explanation for, the change, is a superficial, mathematical phantom that explains nothing and merely hides the change. For example, in the final thought experiment above in which I made my concession, Einstein actually *does* measure a reduced velocity of light when he considers the round trip case, but he would have us disguise this measurement by "synchronizing our clocks," that is, turning back the hands of the clock that appears out of synch, in order to compensate for the reduced speed of light. You then have the forward clock lagging a bit behind the aft clock, so that the readings will give you a "correct" measurement for the speed of light. In effect, with such a synchronization of clocks, and the Lorentz transformation, Einstein is manually, artificially forcing time dilation into the picture. By doing this he fails to penetrate to the heart of the problem. He fails to truly explain how motion alters the observer's relationship to light. There is no doubt that such a change in relationship occurs, but Einstein gives an incorrect summation of it.

If after reading all the preceding, you still think that by denying the relativity of simultaneity, I am merely showing how much I misunderstand and am confused by the subject, let me start over again. I will show you that believers in relativity are the ones who are misunderstanding and confused. Relativity itself confirms my viewpoint: its derivation of the relativity of simultaneity is invalid.

Let's go back to Einstein's train traveling along the embankment. Einstein's first illustration asks us to envision a passenger seated at the midpoint of the carriage. An observer on the embankment sees two lightning bolts strike the front and rear of the carriage simultaneously. The passenger at the midpoint of

the carriage, however, due to his motion, sees the light from the bolt at the front first and the bolt at the rear second, and concludes that the strikes were not simultaneous.

Now, in a subsequent illustration, the passenger at the midpoint of the carriage shines a lamp and sees that it hits the wall simultaneously, while the observer on the embankment disagrees, saying the rear light beam hit the wall first, due to the forward motion of the train. *This illustration is merely the inverse of the first.*

In the first illustration, Einstein has the passenger experience the one-way trip of the light as it converges upon him from the ends of the train carriage, while in the second, he has the observer on the embankment witness the reverse, as the light emanates away from the passenger toward the ends of the train carriage. From both perspectives, the one-way trip gives a non-simultaneous result. And together they show that the round trip is the same from either perspective. In other words, both perspectives give exactly the same result, when the corresponding events are compared. Both illustrations, when considered together, show that both observers are coming to the same conclusion. The second experiment shows that the passenger on the carriage will see the round trip, namely from himself, to the walls and back to the midpoint as equal, but he will see the one-way trip, from the wall to himself, as non-simultaneous.

From the first illustration, Einstein draws the conclusion that our two observers disagree on the timing of the same events, and so simultaneity must be relative. He tries to further strengthen his assertion by offering his second illustration, which seems to reach the same conclusion. But it doesn't, because he's not comparing the same event within the illustration. His second illustration actually negates his conclusion that relativity is simultaneous. It does so by showing that, though each one-way leg of the light's journey is unequal, each leg is the inverse of the other, so that, round-trip, they come out equal from the perspective of both observers.

“Now in reality (considered with reference to the railway embankment) he is hastening toward the beam of light coming from B, whilst he is riding on ahead of the beam of light coming from A. Hence, the observer will see the beam of light coming from B earlier than he will see that emitted from A. Observers who take the railway train as their reference-body must therefore come to the conclusion that the lightning flash B took place earlier than the lightning flash A. We thus arrive at the important result:

Events which are simultaneous with reference to the embankment are not simultaneous with respect to the train (and vice versa)...” —Albert Einstein, *Relativity*

An observer might come to such a conclusion in the unlikely event he's unaware that he's on a moving train, and unaware as well that his motion is carrying him toward the first light even as he recedes from the second. But either our observer is an ignorant clod who is unaware of the existence of a wider universe, or is merely an unfortunate who is totally ignorant of his motion—so what? Does our ignorance

alter objective, real facts? The fact is that both A and B took place simultaneously, Einstein is careful to stipulate that. Our confusion or our inability to determine simultaneity does not alter the objective, natural *fact* of the simultaneity.

If we subscribe to the relativity of simultaneity, which Einstein urges us to do based on the fact that the speed of light puts a limit on how fast we can send and receive information, then we are committing ourselves to a foolish notion. A similar analogy is this: I'm speaking on the telephone with a friend on the other side of the world. I ask a question, there is a long pause, and then a response from my friend. I ask another question, and at the same time, my friend talks over me. Anyone who's ever spoken to someone in another country has likely had such a conversation. Now, when I'm talking to my friend, do I conclude that he's being rude by talking over me, constantly interrupting? No, of course not. I'm aware that there's a lag in the time it takes for the phone signal to travel around the world and back. My friend started talking a few seconds earlier, and the signal just happens to reach my phone at the same time I start talking, and so it appears that he's talking over me, when in reality he isn't. Einstein, in urging us to subscribe to the relativity of simultaneity, would basically have me conclude that, because I heard my friend speaking over me, he didn't speak until several seconds after he actually did. (This would be the situation where the observer on the train concludes that lightning flash A took place later than lightning flash B). In other words, if my friend does something at, say, 2:00, and I do something identical at that that same time according to our previously synchronized clocks, if I don't learn until a few hours later that my friend did his thing at 2:00, then I can't conclude that our acts were simultaneous. Even though they were. Which is a patently absurd thing to expect a person to believe. Just because I learn of two simultaneous events at different times doesn't mean I must conclude that they weren't simultaneous.

I am not misunderstanding Einstein's assertions. I'm giving valid illustrations of the meaning behind his assertions. Reread the quotation above. He's saying that whichever of two simultaneous events we learn of first, we must conclude that that one happened first, because the light from that event reached us first. He would have us believe that the medium (light) used to convey information about an event regulates the timing of that event.

But again I say: our inability to receive timely information regarding distant events doesn't alter the objective fact of the simultaneity (or lack thereof) of those events. Simultaneity is not relative. Our ability to receive information regarding simultaneity may be relative, but simultaneity itself isn't. In the above quotation, Einstein is right: the observer on the train *will* see one flash before the other. But that he "must therefore come to the conclusion" is asinine. *No we mustn't* therefore come to the conclusion, because we *know* better. And even if we *didn't* know better, our ignorance wouldn't change the facts. Ignorance, as they say, is no defense. Just because our hapless observer reaches an erroneous conclusion based on the misleading data available to him doesn't alter the reality of the simultaneity of the two events in question. Come on, Albert.

If relativity fits observation and data, but the reasons it uses to explain those observations and data don't make sense, then we should try to come up with new reasons. For example, if I find a million dollars on my doorstep when I open my door one morning, with no idea of how it got there, I could explain it by saying a magical fairy left it there. It would certainly fit the data and observation then available to me, and I might be able to use my magical fairy to explain other occurrences. But such an explanation is obviously absurd. So I would search for another, more reasonable explanation. We can use the belief that the universe rotates around the earth to explain observations and make predictions. But we know better. Even if we didn't, the theory would still be useable and workable. The point is, even absurd theories can explain and predict. But just because they do doesn't mean we should accept them as they are and give up searching for the truth.

In dealing with reference frames, and claiming that no reference frame is preferred over any other, that is, that all reference frames are relative and there is no absolute reference frame: if we, say, choose a rocket in uniform motion as a reference frame, there is obviously space external to the rocket, so how can we not say that the rocket's reference frame is inferior to that external space? The rocket is demonstrably, entirely contained by that external space, so the reference frame attached to that external space must necessarily be superior to that of the rocket. By this reasoning, since any possible reference frame we might choose is contained within the universe, then all reference frames must be inferior to the universe as a whole. Therefore, there is an absolute frame of reference that comprises the universe as a whole, and any measurements made relative to an inferior reference frame are correct in thought only, and we will be making an error if we attribute any real, physical significance to such measurements. It doesn't matter that we cannot pinpoint the universal reference frame. This inability to pinpoint it does not mean we may ignore its existence in physical theory.

So what do we have? We have a thing, light, which possesses a property, velocity, that apparently alters depending on the state of motion of the observer, so that each observer will measure the same momentary speed, but such that nothing else about the thing changes, i.e. the total distance traveled remains the same for all observers. To me, my instincts are telling me that this is somehow related, possibly identical, to the quantum mechanical phenomenon of light being either a wave or a particle depending on how you measure it. Perhaps light has an equal probability of being everywhere along its entire path at once, and when an observer measures its speed, the particle or wave sort of "coalesces" at that point along the path, and keeps pace with the observer until the measurement is complete. In other words, just as in the double slit experiment of quantum mechanics, when an observer in a speeding rocket shines his light beam, the light has no exact position or velocity along its path, until the rocket's observer measures the beam, whereupon it takes on the velocity alongside the observer. Likewise if a stationary observer were to measure the same beam, the light would take on its appropriate velocity in relation to

the stationary observer. So light has no momentary velocity until it is actually measured, whereupon each observer will measure the same velocity regardless of his state of motion.

Classic illustration of relativity: On a spaceship in uniform motion, a crewmember turns on a light in the middle of the ship and sees it hit the front and rear walls of the cabin at the same time. However, a stationary observer watching the spaceship from the outside sees that the light hits the front wall and the back wall at different times, since the forward wall is receding from the light while the rear wall is racing toward it. So who's right? Both are! Events that are simultaneous in one moving frame are not simultaneous in another.

This is a major error in relativity. When we say "the crewmember sees" the light hit both walls simultaneously, what this means is that the light has reflected off both walls and returned to his eyes. But in the thought experiment, the outside observer is only concerned with when the light hits the walls! This thought experiment, so often used to illustrate the relativity of simultaneity, concerns one event (light making a round trip journey back to crewmember's eyes) from one perspective, and a separate event (light striking the walls) from another perspective, and compares them as if they're the same event that is somehow out of synch. But there's no contradiction here: if you examine the same event from either reference frame (either look at the light striking the walls, or the light returning to the crewmember's eyes) then it has the same outcome, namely that the light hits the walls at different times. The crewmember merely believes the light hits the walls at the same time because the light that took longer going out has a shorter path back due to the crewmember's motion, and vice versa. Sweeping conclusions about how the universe works have been drawn from the erroneous thought experiment. This is preposterous, and it's such an obvious error, I don't understand why everyone is making it.

In light of this, for my own amusement, I'm going to start a list of all the books I run across that use this very thought experiment to illustrate relativity, either the experiment uses a spaceship, a train, a boat, etc. Though I don't know why I should bother; I can probably just assume that every book on the subject contains the same error, since it's an error that's perpetuated through "education."

Einstein for Dummies, Carlos I. Calle, PhD

Relativity and Its Roots, Banesh Hoffmann

What about all the supposed experimental confirmation of relativity?

Take for one the case of muons, particles that have a half-life measured in nanoseconds. When these particles are accelerated to near light speed, their lifespans are lengthened dramatically, which scientists attribute to the dilation of time. Time for the muon is "slowed down," so its decay happens at a slower rate from our point of view.

But the muon does not automatically score a point in favor of relativity's validity. One can come up with other equally plausible, far simpler explanations for the life-extension of accelerated muons. Mark McCutcheon, in his book, *The Final Theory*, proposes that the normally unstable muons, when

accelerated, are held together longer by the crushing pressures of their acceleration. Basically they're experiencing an external pressure that overcomes their internal pressure to fly apart. There's no need to appeal to relativity for an answer.

Another proof offered is that Einstein's calculation explains the orbit of Mercury. He came up with numerous equations before he settled on the right one, and he settled on that one because it fit the data of Mercury's aberrant orbit. In other words, he built his final field equations around Mercury's orbit, he fit them to it purposely. Apparently he came up with earlier equations that didn't fit. While it looks like he predicted Mercury's orbit, he actually tailored his equations to fit it. It's not like he slaved away at his equations completely ignorant of Mercury's orbit and then, lo and behold! Mercury's aberrant orbit conveniently and magically fell out in the numbers. "Perfect, Einstein! Do you realize your equations explain Mercury's puzzling orbit?" "Oh, really? Wow!" He slaved away at his equations, already fully aware of the decades-old puzzle of Mercury's orbit, hammering at his numbers and twisting them around until he managed to fit them around the fact of Mercury's aberrant orbit. He would have developed his equations with the thought in mind, "Okay, I know about the slight bit of Mercury's precession that can't be explained. So I need to play around with my equations, adding variables here and there and tweaking the numbers, until my equations explain Mercury."

It's a stretch to say that because he stumbled upon an equation that explains astronomical data, relativity must be true. You can't deny the mathematical truth of his equation, but you can deny his claims about what it means. For example, suppose I'm a detective investigating a crime scene where gunplay was involved. I may be able to calculate the precise angles and trajectories of every bullet in the walls, but that data alone will not tell me the identity and motive of those involved in the crime. I can draw my conclusions, and another detective could draw his own that are completely at odds with mine—but neither of us will disagree about the mathematics of the gunplay. Einstein's mathematics may thus support any number of theories at odds with his own, all of which would share and be supported by his mathematics. Relativity is a philosophical interpretation of the implications of his mathematics. Much like reading a book, where two readers may come up with two wholly different themes—but this difference does not alter the fact of the words or the book as a whole. The book can even be said to support whatever theme the reader wishes to read into it, but the only correct theme, it can be argued, is that which the author himself had in mind when writing it. Einstein, with his field equations, is not to be equated with the author of the book in my metaphor. Rather, he would be a librarian, perhaps, who has opened the book and exposed the words to other readers.

So what about the supposed confirmation of relativity by GPS satellites? They have to be corrected because the clocks on the satellites get out of synch with the clocks on the ground?

Let's look at what GPS is. A device on the ground, to determine its position, transmits a signal to a satellite in orbit. The satellite in orbit must take into account the time to calculate the device's position on the ground. But the signal from the device has taken time to travel to the satellite, so the satellite's clock is

obviously “out of synch” with the time reading from the device, since the encoded time stamp is from a few nanoseconds earlier. So the satellite has to compensate for this. But there’s nothing strange or unexpected here. There really is no time difference. The clock in orbit and the clock on the ground are still reading the same time. If they want to compare their times using electromagnetic signals, they obviously must compensate for the travel time of the signal. The clock on the ground says, “It’s five o’clock,” and transmits that information to the satellite. Five seconds pass on both clocks, and the satellite receives the signal and hears, “It’s five o’clock.” The satellite looks at its own clock and says, “No, it’s not, it’s five seconds after five o’clock.” Only an idiot would conclude that there is an actual time difference between the two clocks due to some strange property of nature. A reasonable person obviously concludes that there is merely a lag due to the travel time of the signal that must be taken into account.

Let’s pretend the GPS satellites were in orbit around Mars. The GPS device on Earth transmits its signal, the signal travels to Mars. And lo and behold, the clocks are now “out of synch” by a whopping ten minutes.

Of course the above has neglected to take into account the supposed influence of gravity on time. But again, there’s no mystery, or mysterious force of nature warping time. Time is not being warped. It’s merely the travel time of the signal that must be compensated for. Gravity pulls at the signal, and so affects its travel time. But just as I’ve outlined above, the clocks are not reading two different times. At each instant, when the signal is transmitted and again when the satellite compares the signal’s time stamp to its own clock, the clocks still reading the exact same time. It doesn’t matter that the signal says differently. The signal took time to travel. Big deal. There’s no mystery. It’s simple classical physics. The real mystery is why so many supposedly intelligent people conclude that there must be an actual, physical difference in time and its rate of passage between the satellite’s position and the device on the ground, that can only be explained by Einstein’s relativity.

Let’s take another illustration. Suppose my friend lives on the other side of the world from me. We’re conversing by cell phone. The distance is such that it takes four seconds for the signal from my phone to reach his, and vice versa. I look at my clock and tell him, “It’s five o’clock.”

He hears me say this and looks at his own clock. “No, it’s not. You’re mistaken. It’s four seconds after five.” Assuming we’re both nitpickers here, and such a miniscule difference matters to us.

Of course, when I hear him say this, by my clock it is now eight seconds after five. Therefore, according to relativity, I must conclude that his time actually lags four seconds behind mine. We live in different times, we have a separate experience of time. Likewise, he must conclude the same thing about my time. And we must both wonder, what a strange phenomenon, that our times, our nows, are different.

This is stupidity! Who in their right mind would think that the signal’s travel time indicates an intrinsic difference in the physical times of our two locations? What kind of obtuse nut wouldn’t merely shrug it off with the knowledge that there’s no real difference in time, it just seems that way due to the travel time of our signals?

A nut who believes in relativity, that's who.

Light as a time-wave.

All this talk of all observers measuring the same speed for light in all reference frames is pointless anyway. Think about it. If you're measuring the light, it's within your reference frame anyway, so of course you're going to measure it at the same speed everywhere. If it actually accelerates in another reference frame relative to you, you'll never know it, because by the time the light gets to where you can measure it, it's within your reference frame, and has already adjusted itself to your frame so you'll make the appropriate measurement. It's impossible to measure the speed of light in another reference frame from within your own reference frame. If you're measuring the light, the light is *de facto* within your reference frame, so any measurement you make won't give you results for how fast it was moving in the other reference frame.

In the double-slit experiment, the outcome—the interference pattern—is the same whether you fire photons individually or as a continuous beam. The difference is, individually, you're spreading the process out *over time*. Just as in relativity, the observer in motion measures the same speed of light, but over a “longer” time.

You need to fire X number of individual photons to get a recognizable pattern, and a steady beam has to shine for X minutes to emit an identical number of photons.

$X \text{ photons/time} = \text{interference pattern.}$

For example, for single photons, $X \text{ photons}/30 \text{ minutes (or whatever)} = \text{interference pattern.}$ This is a *timelike* light wave—spreading the wave across time, i.e. the wave emerges over time.

Conversely, $X \text{ photons}/1 \text{ nanosecond (or whatever, just much less time)} = \text{interference pattern.}$ This is a *spacelike* light wave—the wave exists all at once in space.

A *timelike* light wave has particulate properties, whereas a *spacelike* light wave has wave-like properties.

So light requires a certain number of photons to take on wave-like properties. The wave nature of light is thus an *emergent* property of the large number of photons. Just like with a gas—one atom does not a gas make. A gas is an emergent property of a large number of particles and temperature acting in concert.

Light wave = photons + time

Gas= particles + temperature

Can the kinetic theory of gases be applied to light?

In relativity, an observer in motion measures the same speed for light as a stationary observer, but over more time, over a “longer” time.

A new model of the electron:

Suppose the electron is constantly exploding into a cloud of debris, which then implodes, reforming the electron.

In its compressed form, it is solid—an electron. It's pulled together by some sort of attractive force similar to the nuclear force. But thus compressed, its energy is so great that its solid form can't be maintained. It explodes, dissolving into a cloud of debris, or gas. With its energy thus dispersed, the attractive force again dominates, and the cloud, the gas, collapses in on itself, reforming the electron, whereupon it explodes again.... This happens continuously, perhaps millions of times a second, so that, in effect, the electron is both a particle and a wave.

What we know as magnetism is actually the electron in its exploded, gaseous state. This constant cycle of explosion and implosion is electromagnetism.

This cycle also somehow propels an electromagnetic wave forward, much like a blowfish (or whatever that fish is) moves by drawing in water and expelling it. Perhaps when it implodes a small burst of energy is released that sort of knocks the newly-re-formed electron forward.

The common view of “block time,” where everything that has happened, is happening or will happen, exists statically in a sort of three-dimensional block, is wrong. In such a model, the perception is that each moment of time is merely a slice of a greater whole, separated from one another by some sort of space, forming a block. That is, each moment of three dimensional space is but a slice of the block, each slice being an entire three dimensional universe stacked one on top of the other until a block is formed.

But this is an error. In actuality, each moment exists superimposed with all other moments, in a sort of jumble. For example, The block view would have my life strung out in a sort of temporal space, with, say, a million versions of myself strung out in a sort of line, each one separated from the others by some sort of distance. But such a view is too spacialized. This is how it really is: my nine-year-old self coexists in the same space with my current self, just as my current self exists in the same space with my ninety-year-old self. We are bound into a whole by the temporal dimension; space and time are bound inextricably together. But they are not a singular spacetime, as relativity would have us believe, and they are not bound together in the manner of the “block” view, where time is reduced to a merely spatial dimension. They are each unique and separate, yet bound into a whole in such a way that they cannot be separated, in much the same way that none of the supposed three dimensions of space can be isolated from the others. Much as my body has a volumetric extension in space, that spatial volume, at one and the same time, has a temporal component; not a component that is “stacked” as in the “block” view, but rather a component that occupies the same spatial position, but in a different temporal position—but yet not even really the same *spatial* position, for the space itself, seemingly the same, occupies a different temporal position. My consciousness spans the whole of my life, right now and at every moment. The

consciousness I am thinking with now is the exact same consciousness that my nine-year-old and ninety-year-old self are also thinking with, “right now.” Every moment of my entire life is sort of “plugged in” to the same consciousness. Or, put another way, each moment of my life is like a different “frequency” to my consciousness, which is “global” to my whole temporal lifespan. “We” are all here, right “now,” each aspect of me being merely a different spatio-temporal side, much the way a cube has different spatial edges. That same cube also has a temporal “edge.” For example, suppose I sat and stared at a motionless cube for years. Each and every moment, though it looks the same, it is actually presenting me with a different aspect of itself. I am, as it were, seeing it from a different side, each and every moment, for I am viewing different temporal sides of it, much in the same way that, were I to walk around it, I would see different spatial sides of it. Yet in each case it is the same cube.

Quantum Mechanics — a particle is a solid thing at any given single moment of time; a wave is a process that happens over time. They’re two different sorts of things. The difference between them is the difference between a point and a path. To say something is either a particle or a wave, depending on how you look at it, is like saying that I am either standing still or I’m running around the room. You’re either looking at me, or you’re looking at the path I’m following in running around the room. The first is a solid object at one moment, or multiple moments, of time, while the second is merely an abstract thing that only exists across multiple moments, as a mental construct assembled from a real solid object in motion. So the particle wave distinction in quantum mechanics is really a distinction between the time taken to measure the particle and the particle itself. Wait long enough, and it will become a wave; but if the smaller your measurement’s temporal interval is, the wave will become more particle-like, as you narrow down its location. The supposed paradox of the particle/wave duality of matter is really no paradox, as there is really no duality. To say that there is a duality here is like saying that, when I am standing still at precisely ten o’clock, I am an entirely different thing than I would be if you were to consider me running around the room between ten o’clock and five after ten. In the latter case you are considering the path of my motion, but the path is not me. Examining the path would tell you nothing about me other than the state of my motion.

The Michelson-Morley experiment does not prove there is no aether. What it proves is that the round-trip velocity of light is constant, which is exactly what we would expect of any wave, be it sound, light or whatever, regardless of ether the medium through which it is traveling is in motion or not. The experiment tells us nothing about the one-way velocity of light, which is the only velocity with which we should be concerned.

Having a mass that inherently possesses a charge is an unnecessary complication. Suppose there is only mass, or only charge, and they mechanically affect other masses or charges through a medium.

The proven fact of the Doppler effect is one disproof of Einstein's relativity.

The standard view of an EM wave is that of an actual, self-contained entity hurtling through space at 186,000 miles per hour relative to whatever inertial frame is chosen. There is no medium of propagation; the wave itself is moving, unlike a water wave, where the wave is due to individual water molecules moving in an up-down direction, but moving no horizontal distance; the water wave is then merely a disturbance rippling through a medium, giving the appearance of forward movement of the water. If water were an EM wave, we would consider the wave itself as a thing traveling forward; that is, the water molecules would be moving forward.

In my view, the EM wave is like a water wave, in that the wave is due to fluctuating intensities of electromagnetism in a given point in space.

Let me try to explain this further, as I feel maybe I'm not making the difference clear. In physics textbooks, the standard picture of an EM wave is given as two sine waves tangled together, at right angles to one another, with this wave structure itself actually moving through space. In my view, this wave structure does not move through space. Rather, EM intensities fluctuate and shift directions in connected regions of space. There is no physical movement, merely a ripple of fluctuation propagating through space.

Two observers each situated at some distance from a flash bulb will each record different times for when the flash bulb goes off, due to the fact that the light from the bulb will take different times to reach each observer. So Einstein concludes that each observer claims the same event, the firing of the flash bulb, occurred at different times, so there can be no absolute definition of simultaneity. But all each observer is recording is the time at which the light from the event reaches his clock, which is a separate event from that which is claimed that the observers are measuring—when they're recording their times, they're not recording the time of the firing of the flash bulb, they're recording the time at which the light from the firing reaches their positions.

Relativity says that a clock situated right at the flash bulb will record one time for the flash, while other clocks situated at different places widely separated in space will record different times for the flash. But the only clock that records the time of the flash is the one situated right at the flash bulb. The other clocks are not recording the same event. The other clocks are recording the event consisting of the arrival of the flash at that particular clock. So to claim that widely separated clocks record different times for the same event, and that therefore simultaneity is relative, is logically fallacious, because the clocks are not recording the same event; they are recording three separate events, or even more separate events, depending on how many clocks we're dealing with. As an illustration: suppose I'm watching a ballgame in a stadium. But I'm blind. There's a clock at the batter's position, and there's a clock at my position up in

the nosebleed section of the stadium. The batter hits the ball, and his clock precisely records the time of his hit. The ball then flies up to my position, and I feel it whistle past inches from my head. My own clock precisely records the time of this passage. There are clearly two events: the batter hitting the ball, and the ball whistling past my head. It would be fallacious of me to conclude that my clock has recorded the time at which the batter hit the ball. To do so would be to consider two separate events as the same event, which is absurd. Yet this is what relativity does by claiming that simultaneity is relative. There are clearly two different events, which relativity considers the same event: there is the flash of light from the bulb (the batter hitting the ball) and the arrival of that flash at a distant observer (the ball whistling past the head of the blind guy in the nosebleed section). Put the blind guy in motion, say he's in a wheelchair hurtling down the stairs toward home base, at it's still the same situation.

“If light's speed is defined with respect to an aether, then as an observer moves with respect to this medium at various uniform speeds her measured speed of light must change. But this means that Maxwell's equations, the laws of physics that predict light's speed and do not require any specification of the observer's speed, must also change depending upon the observer's state of motion in the aether, a conclusion in clear violation of the principle of relativity.” (Mook and Vargas, *Inside Relativity*, page 70).

But defining light's speed with respect to an aether would not change the laws of physics. By this reasoning, then a moving observer who measures a different speed than a stationary observer for sound with respect to air, would also be experiencing a change in physical law. Moving observers obviously would measure a different speed for sound, since we do not insist upon the notion that the speed of sound is the same for all observers. But we do not consider this as a difference in physical law. Measuring different values for a variable is not changing the laws of physics. Sound for both observers is still behaving according to the same law of physics; therefore defining light's speed with respect to an aether should be treated in the same manner. The reason it is not so treated is evident from the first sentence in the above quotation, which presupposes (is dependant upon) Einstein's second postulate. This is circular reasoning here. Observers measuring a different speed of light with respect to an aether would not violate physical law; it would merely violate the supposed meaning of Einstein's second postulate. The fact of the Doppler shifting of light proves that the speed of light does in fact depend upon the state of motion of the *observer*. Note the emphasis on the observer. The speed of light does not depend on the state of motion of the source, but it *does* depend on the state of motion of the observer. And such dependence does not violate physical law, it does not violate the first postulate of relativity. An observer in motion who measures a different speed for light does not even violate Maxwell's equations; the speed of light has not been altered no matter the state of the observer's motion, any more than the speed of sound is altered by the state of motion of the observer or the source; any observed difference is due to the observer's motion with respect to the aether, not due to the motion of the source with respect to the aether. So this whole notion that an observer in motion who measures a different speed of light somehow is violating physical

law is nonsense. It does not even violate Einstein's second postulate, namely that the speed of light is the same regardless of the speed of the light source with respect to the observer.

Let's take a standard illustration from relativity. We have two mirrors stationed on opposite walls of the interior cabin of a spaceship, and a light pulse bounces back and forth between these two mirrors, constituting as it were a light clock. The standard schpiel is that an observer on the rocket sees the light beam traveling straight up and down, since he is not in motion relative to the mirrors, while an observer on the ground sees the light beam traveling in a diagonal path between the mirrors, slanted in the direction of the ship's motion, due to the mirrors being in motion relative to the ground observer. From this, we are supposed to conclude that, from the viewpoint of the ground observer, time for the observer on the rocket is passing at a slower rate than for the observer on the ground, or vice versa, depending on which viewpoint you assume. This supposed difference in time measurements is due to the light taking a shorter path in one frame and a longer path in the other.

But the conclusions drawn from the above illustration are incorrect. The Doppler shift is hard evidence of this. If light actually behaved as in this standard illustration, traveling in a diagonal path from the viewpoint of a reference frame that is stationary relative to the source of the light, then there would be no Doppler shifting of light. In the above illustration, from the viewpoint of one reference frame, light is being carried forward with the motion of the ship. In other words, in the illustration, ***the behavior of the light is dependent on the motion of the source***. But the Doppler shift shows us, and even relativity claims, that light is independent of its source. In the correct mirror illustration, the light, once emitted or reflected, would travel straight across the intervening space to the opposing mirror, *independent of the ship*. In fact, due to the forward motion of the ship, the light would hit the opposing mirror at a point slightly behind the emission or reflection point of the mirror it had just left, and just how far behind would of course depend upon the velocity of the ship. In fact, relativity recognizes this point in the general theory, using this fact to draw the connection between acceleration and gravity. Why does relativity correctly describe the behavior of light for the general theory, while incorrectly describing it for the special theory? The difference is *acceleration*, obviously. But acceleration does not alter the behavior of light. The general theory has it correct. In the illustration of the light clock: for a ship not undergoing acceleration, the light bouncing between the mirrors will simply drift rearward at a constant, steady rate, while in a ship undergoing acceleration, the light will drift backward at an ever-increasing rate. In other words, in uniform motion, the point at which the light is reflected from each mirror will drift backward, with an equal spacing between the points on the wall where the reflection occurs; while in acceleration, the point at which the light is reflected from each mirror will drift backward, with a spacing between the reflection points that increases with each reflection. I am of course using a single pulse of light that, once emitted, continues bouncing indefinitely between the mirrors, rather than a steady stream of light pouring from an emitter. In the case of a steady stream of light, each successive pulse will hit the

opposite wall at the same point, still slightly rearward of the emission point. Either we use a single photon or a steady stream doesn't alter my point or the physics of it. This "rearward drift" is just more visible if you confine the illustration to a single photon.

Relativity is riddled with these types of inconsistencies, such as the one above, between the special theory and the general.

If you believe this is not inconsistent, and I'm just a nutty crackpot, think about the Doppler effect. Visually, when light is emitted from a moving source, the light waves look like a v-shaped funnel—a series of concentric circles, starting with a huge circle, with each interior circle slighter smaller and to the side of the larger, until at the apex of the v we have a tiny circle, which is the pulse just emitted from the source. If I'm not describing it well enough, look in any physics textbook on the Doppler Effect, or better yet, watch an animation. You'll see that each circle expands in place where it was emitted while the source moves onward. The Doppler effect looks like this because each pulse, each circle, stays in place in space and grows larger, while the source moves away from it. A flash of light, a pulse, is represented by a single circle, expanding *in place from where it was emitted*. Need I say it a few more times? The light wave, or the sound wave, is stationary, while the source moves onward. Or, if you insist on relativity, the source is stationary and the pulse moves away. So the pulse, the flash, would hit the opposite wall of the spaceship at a point slightly *behind* the spot opposite its point of emission. There is no way around this conclusion. It is a hard physical fact. But in relativity's view, the flash is carried along with the motion of the ship, so that it is stationary relative to the ship. You cannot dispute anything I've said here, about the Doppler effect or about relativity. If you do, you're the crackpot who doesn't truly understand physics, not me. *Relativity claims the light is moving along with the ship, stationary relative to it.* The assertion that a stationary observer will observe the light in the rocket as taking a diagonal path across the cabin, while an observer in the rocket will see the light going straight across the cabin, is a fallacious assertion! This is the method by which Einstein claims time dilation, but it's a faulty claim. An observer in the rocket will see the light pulse drift slightly rearward inside his cabin, while an outside observer at rest relative to the light will see it travel a straight path. The observer at rest relative to the rocket will see the light at rest relative to himself, while the rocket's observer will see the light moving away, relative to himself.

The generation of a light wave is like a rock dropped into the water behind a speeding boat. The rock is dropped, and boom, the wave spreads out from the point of impact. The point of impact and the spreading wave does not follow along behind the boat, picking up the momentum of the boat. The impact point stays in place, receding behind the boat, even as the wave's edge expands outward toward the boat. If relativity's interpretation is true, then the point of impact would move along behind the boat, remaining stationary relative to the boat.

Let's say we have a spaceship traveling through space at uniform velocity. The pilot, Vincent, is standing in the middle of the cabin. He has a digital clock beside him, as well as a switch. The switch is

connected by wire to a light bulb at the front of the cabin, and a light bulb at the rear of the cabin, so that, when the switch is thrown, both light bulbs light up. Each light bulb is connected to a clock right beside it. These clocks detect and record the exact moment when the pulse comes through the wire and activates the bulb. These clocks were synchronized with Vincent's by putting them right beside Vincent's clock and set to the time of Vincent's clock. The two clocks were then instantaneously teleported to their respective positions beside the light bulbs at the front and rear of the cabin. Or they were walked to their positions by Vincent, or whatever. Any way you can imagine that the clocks would get to their positions without getting out of synch with Vincent's due to motion. We are absolutely certain that when I look at the rear or forward clock, I can be sure that Vincent's clock is showing the same time.

Okay. Vincent throws his switch, carefully noting the time as he does so. What will happen? First, due to the forward motion of the ship, the light bulb at the rear of the cabin will light up, its clock will stamp the time, and the light from the bulb will head back toward Vincent at the center of the cabin. Seconds later, due to the forward motion of the ship, the light bulb at the front of the cabin will light up, its clock will stamp the time, and the light from the bulb will head back toward Vincent at the center of the cabin. Because the light from the rear has further to travel due to the forward motion of the ship, and the light from the front has less distance to travel, the lights each reach Vincent at the same time. He concludes that the pulse from his switch reached both walls at the same time, triggering their lights. (This is incontrovertible; Einstein would agree: if he claims that when two lightning bolts hit the front and rear of the train simultaneously from the vantage point of an outside observer, but will be perceived as non-simultaneous to an observer in the rocket, then he must agree that the reverse would hold true: that non-simultaneous strikes would be perceived as simultaneous by the rocket's observer, which is exactly the situation I have described above.

Since Vincent sees the lights at the same time, he believes that when he compares the two clocks at the front and rear of the cabin, they will both contain the same time stamp. He performs this comparison. Astonishingly, the time stamps are not identical. The clock at the rear has an earlier time stamp than the clock at the front. How can this be? he wonders.

Let us further say there is an observer, Nancy, standing alongside the rocket's path. There is a v-shaped mirror in directly in front of her, which will allow her to see both lights without turning her head. When the light bulbs go off, she sees the rear bulb go off first, and the front bulb go off second, agreeing with the judgment of Vincent's clocks.

Clearly, Vincent's perception of the simultaneity of the bulbs going off was in error. He cannot argue with his clocks; despite his perception, the bulbs did not go off simultaneously. He must agree with Nancy. Yet special relativity would have us accept Vincent's perception as accurate, and believe that a discrepancy exists between Nancy and Vincent: Vincent says the lights went off simultaneously, Nancy says they didn't. Therefore simultaneity is relative.

You cannot claim that I am misunderstanding relativity here. My illustration is in perfect agreement

with the two main illustrations put forth by Einstein and proponents of relativity: namely, the thought experiment where the observer shines a light from the middle of the train, or spaceship, or whatever vehicle you choose to use; and the thought experiment where lightning strikes the front and rear of the train, spaceship, etc.

The proponent of relativity will probably say there is one thing wrong with my thought experiment: the clocks have not been properly synchronized. Once Vincent's clocks are positioned at the front and rear of the cabin, we must send light signals back and forth between them, to adjust them properly. But I utterly reject this second phase of synchronization. This synchronization merely adjusts for the error that exists. It is merely a way of getting the clocks out of synch again, and into agreement with relativity's conclusions. The error exists; you can't "sweep it under the rug" by "synchronizing the clocks with light. To do so is to merely adjust the clocks so that the error *seems* to go away. I'm right and you're wrong, yet you're trying to tell me I'm wrong because I haven't adjusted for *your* error. That's ridiculous! I don't care if you've got Albert Einstein and the supposedly greatest minds of the past hundred years of physics behind you, if you're wrong, you're wrong, I don't care who you are. Was Galileo wrong about heliocentrism just because the Church said he was? If the whole of the scientific church says someone is wrong, does that mean they truly are? At 4:45, if I want to leave work, and I set the clock forward to 5:00 and leave, I can't then pretend, without being in error, that I didn't leave fifteen minutes early. No matter that I set the clock forward to 5:00, the fact remains that I left work fifteen minutes early. My boss will claim that I left work fifteen minutes early, and will want to dock me fifteen minutes' pay; shall I attempt to wriggle out of this by claiming that there is an actual, physical difference between my 5:00 and his, merely because I moved the clock forward?

As far as I'm concerned, any theory, such as the gravitic theory of general relativity, that can't be explained in simple English, but requires years of education in complex mathematics to truly "understand" it, is complete bullshit.

The Eotvos experiment, presented as proof that space-time is curved as general relativity claims, does *not* prove that space-time is curved. It merely proves that things fall equally in gravity regardless of their composition and mass, to a degree of precision greater than that obtained by dropping things off buildings.

In case you think, "Scott, you don't know what you're talking about. The Eotvos test is merely a test of the principle of equivalence, so you're getting all worked up about nothing. No one considers Eotvos a proof for curved space-time."

Oh yeah, wise guy? "The Eotvos experiment is viewed as one of the primary tests of the validity of curved space-time." (Clifford M. Will, page 39-40, *Was Einstein Right?*)

Another of the tests that supposedly confirms the curvature of space-time is the hydrogen maser experiment of the mid-1970's. This experiment did *not* prove the curvature of space-time; rather, it merely confirms that light is affected by gravity. I have no quarrel with the notion that light is affected by gravity. It makes sense that light should be affected by gravity: everything else is so affected, why shouldn't light be as well?

The assumption is apparently that, since this experiment confirms the principle of equivalence, then it *de facto* confirms the curvature of space-time. But again, I am not disputing the principle of equivalence, or Galilean relativity. Gravity and acceleration should be expected to appear similar; gravity is acceleration relative to the ground of any given planet, and "gravity" in an accelerating spaceship is acceleration relative to the rear wall of the interior of the spaceship. Well, duh! Of course they appear similar. What I am disputing is the conclusions Einstein draws by trying to hold on to both Maxwell's findings and Galilean relativity, namely the conclusion that light signals and our state of motion somehow determine how we experience the physical passage of time. We should not hold on to Galilean relativity. Galilean relativity is equivalent to an optical illusion, and any conclusions drawn from it are equally illusory. I contend that there is a privileged reference frame, regardless of our inability to detect it. Inside Galileo's ship, claiming that a passenger on the ship, ignorant of the outside world, will be unable to detect by any experiment ether the ship is in motion, is immaterial. Such ignorance on the part of a man can have no physical impact upon the actual world; his ignorance does not dissolve the world outside his ship, making everything, from his viewpoint, relative to his ship. His ship is still enclosed by a wider world. If his ship were in fact all there was to the universe, *then* all motion and physical phenomena would be relative to his ship. But he has only to go on deck or look out a porthole to see that his ship is indeed enclosed within a wider universe. So he can't pretend that his ignorance of the precise state of the absolute reference frame, namely the bounds of the universe, has any physical effect upon motion and phenomena. All motion and phenomena in his ship must therefore be relative to that wider universe as a whole. He may choose to attach such motion and phenomena to a smaller part of that universe, but such attachment does not alter the fact that motion and phenomena are actually relative to the wider universe.

Einstein, or those who support and propound his theory, presents two incompatible illustrations for relativity theory: his illustration of lightning strikes at both ends of the railway carriage, and his illustration of a man at the center of the carriage shining a light toward the fore and aft walls. The two illustrations are mutually exclusive; both cannot be valid. We must either conclude that simultaneity is relative, or that a red-shifting of light does not occur. The latter has indisputable experimental verification; the former is a mere hypothesis. These two contradictory assertions of relativity constitute a definite strike against the validity of relativity.

I don't believe that relativity has been validated by a century of experiments. There may be

experiments that *seem* to confirm relativity, but I believe there is no true substance to these experiments. They verify conclusions of relativity, but those conclusions are illusions. An analogy: my eyes verify the existence of the illusion in an optical illusion, but the illusion is just that: an illusion. All supposed experimental verifications of relativity that I have seen are themselves relative: they depend on your viewpoint.

Let's consider a common illustration used to demonstrate Galilean relativity: a ball dropped from the top of a mast on a moving ship. From the viewpoint of someone on the ship, the ball falls down to the deck in a straight line parallel to the mast. But from the viewpoint of someone on the shore, the ball traces out a half-parabola as it falls to the deck. Both viewpoints are equally valid, says Galileo, since all bodies are in motion and there is no way to determine an absolute frame of rest. So in actual physical fact, the ball's motion depends on your viewpoint.

But I reject Galilean relativity on this basis: say we shone a light on the ball as it fell from the mast of the moving ship. The ball would then cast a shadow on the "wall of the universe" behind the ball. The ball's path, cast onto the wall as a shadow, would be a half-parabola, from either the viewpoint of someone on the ship or someone on the shore, regardless of whether or not the light source casting the shadow was moving. It is apparent from this that I consider the entire universe as like a closed room. All motion within this "room" can only be relative to the walls, floor and ceiling of this room. Now, we can isolate the motion of a ball dropped from the mast of a moving ship within this room, and pretend that the ball merely falls in a straight line parallel to the mast. But this isolated path is just that: pretend. The actual, true path would be that which the ball makes relative to the walls of this universal room. It makes no difference whether we can actually detect the "walls" of our universe; they can be virtual, or actual. They must exist; as long as there is obviously *something* of greater spatial extent than the reference frame from which we make an observation, then the motion of that reference frame is relative to that greater something. Take, for example, the aforementioned ship. Obviously, the ship is in motion within a greater space. The ship is on a planet; the planet is in a solar system, the solar system is in a galaxy, the galaxy is in a...you get the idea. A man on a ship may pretend ignorance of the wider universe in determining motion on his ship, but why should his ignorance, or his pretension of it, extend to nature?

Now, you can say that you don't believe in my notion of a "universal room" to which all motion is relative. You can say that all that exists are relations between the positions of various objects, and so all motion is relative. All motion in such a case is then part of a "web" of relations. This is undeniable. All motion must then be relative to this "web." How, then, is this any different from my belief that all motion is relative to the walls of a universal room? We can isolate a particular path within this web, and the path will appear to have one configuration (as in the ball dropped from the mast of the moving ship). But to do so is once again to pretend ignorance. The true path can be determined by examining the path from multiple viewpoints within the web, much like a computer can construct a 3-dimensional image of the

interior structure of a human head by analyzing numerous x-rays from multiple angles. So the claim that, “No absolute space exists, only relations between objects exist,” can be shown to ultimately lead to what can only be considered an absolute frame of reference, namely, the totality of the web of relations. Slap walls around this totality, and you’ve got my universal room.

That’s why I believe that Galilean relativity has no more substance than an optical illusion, and has no effect upon nature. Einstein’s error is his belief that Maxwell’s laws should not violate Galilean relativity. He’s trying to keep them both. But why? If Galilean relativity is an illusion, then why should we care if Maxwell’s laws violate it? Maxwell’s laws describe nature; Galilean relativity describes an illusion. Throw out Galilean relativity!

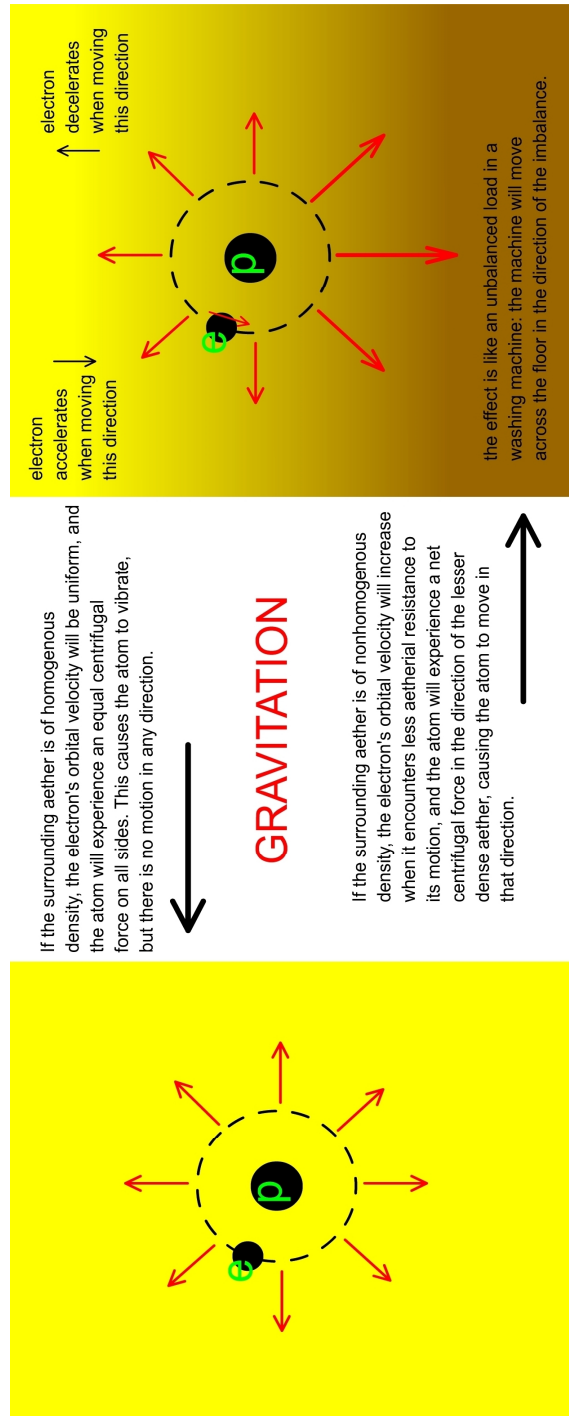
Galilean relativity *does* exist—but it’s a figment of our consciousness. It has the same sort of existence as the apparent back and forth motion of an object when one alternately opens one eye and closes the other, in rapid succession—that is, it’s an illusion. Einstein’s relativity, by holding on to Galilean relativity and Maxwell, is in effect saying that the object actually does move, depending on ether I keep both eyes open constantly, or alternately close and open them in rapid succession. He is saying that my behavior alters the physical properties of the object. Which is patently foolish.

If observers in motion measure a different speed of light (based on addition of velocities) then why is it we on Earth (which is in motion) measure the exact speed of light as predicted by Maxwell? My answer is: maybe we don’t. There must be something in the way we’re measuring light that hides the addition of velocities, in the same way that relativity hides it. I’ll come up with a more precise answer once I look into exactly how we measure the speed of light.

Suppose gravity results from a sort of “tip the boat” effect, where a large group of people in a boat line up on one side of the boat, then rush at the opposite side, then go back to their starting point, then rush at the other side again, using their momentum to start the boat rocking with the eventual goal of capsizing it. Suppose this is the effect, but on an atomic scale, that gives rise to gravity. This is how it would work: the aether in a circular area of space grows increasingly less dense toward the center of the space. Electrons, as they circle the atom, thus will move more swiftly through the aether on one side of the atom, the side toward the less dense area of the aether. The electrons will speed up as they loop around the atom and encounter less resistance, then slow down again on the return loop, then speed up again, so that a net force is exerted toward the less dense area of aether. All the atoms composing the object will thus produce this net force, causing the object to move in the direction of the less dense aether. As it moves, the aether becomes increasingly less dense in the direction of its motion, so the electrons gain more speed, producing a greater net force, which causes the velocity of the object to increase: acceleration. We would recognize this acceleration as gravity.

A question to answer: what causes the aether to be less dense in areas where we experience gravity? It

would not be due to the presence of mass...so then what causes it? Mass collects in these pockets of less dense aether, and more mass “gravitates” toward it, causing us to believe the larger mass is generating the gravity, or “curving spacetime,” as the Einstein nuts would have us believe. But the less dense aether is already there, collecting matter—i.e. the “gravity” (in the form of pockets of less dense aether) is already there, before mass. So what causes the less dense aether?



One thing it is of vital importance to understand is that when one moves from “here” to “there” in space, one is not actually moving in space; rather, one is moving in time. When I arrive “there,” “there” is not the same “there” to which I determined to move when I was “here.”

Let me explain in detail. Let's say I am standing at a position X at 7:01 PM. We'll combine this to read X7:01, a timespace position. I determine that I wish to move to position Y (perhaps Y is a spot across the room, over by the sofa). I do so, arriving at Y at 7:02 PM. Y7:02. When I look back to X from Y7:02, I am looking back at X7:02, not X7:01. X7:01 is now in a part of a space which I can no longer see. It is part of the past. Likewise, when I was standing at X7:01, looking across the room and deciding to move to position Y, I was actually deciding to move to Y7:01. But instead, I moved to Y7:02. I did not move across the intervening space from X7:01 to Y7:01. I moved across the intervening *time* from X7:01 to Y7:02. One can never be in two spatially contiguous places at the same time. I can *never* move from X7:01 to Y7:01. *Nothing* can ever move from X7:01 to Y7:01. Motion through space is impossible, without also moving through time.

Indeed, the part of me that determined to leave position X7:01 never actually left it. Even as I arrive at Y7:02, that other part of me is still there at X7:01. When I stand at Y7:02 and look back at X, I do not see that part, because I am looking at X7:02, not X7:01.

How are spaces connected in time? What velocity is necessary to move me from one moment to the next, from one position in time to another? I don't mean spatial velocity, the force I need to achieve to propel myself from X to Y. I mean, what force, what velocity through time, is necessary to move me from X7:01 to X7:02? Because a force, a velocity, must be required, ether I am moving or stationary in the spatial part timespace. We are all of us being propelled through timespace ether we wish it or not. Some velocity, some force, must therefore be exerted upon us to propel us from X7:01 to X7:02, in addition to the force I must exert to move from X7:01 to Y7:02.

When an observer in a rocket, or even in a stationary room, sees light hitting a rear wall and a forward wall at the same time, he is *not* actually seeing the light hit the walls at the same time; he is actually seeing the reflected light from each wall arriving at his position at the same time. There are two events: the light hitting the walls (event A), and the reflected light arriving at his eyes (event B). If the observer claims that he sees the light hit the walls, then he's claiming that event B is event A, and he is thus an idiot.

According to Einstein, and common sense as well, if lightning strikes either end of a moving train simultaneously, then the light from each strike will converge on an observer at the center of the train at two different times, i.e. non-simultaneously. Logically, the converse must also be true: if a bolt struck the center of the moving train, light from the bolt would strike the ends of the train non-simultaneously.

From this we can conclude the following: if our observer at the center of the moving train shines a light toward the front and rear of the cabin at the same time, then each light beam will strike its respective wall at a different time, i.e. non-simultaneously...which would be in agreement with an outside observer who is stationary with respect to the train. The light will reflect from each wall and converge on the observer at the center of the cabin at the same time, and he will erroneously conclude that the light hit both walls simultaneously. The observer on the rocket and the outside observer disagree on the timing of the light hitting the walls. The observer on the rocket says it hit simultaneously, the outside observer says non-simultaneously. But the outside observer is correct, since the rocket's observer is basing his conclusion on an erroneous perception. As I have shown, there is in fact no actual, physical difference as to when the light hit each wall; the thought experiment put forth by Einstein himself shows this, but he and his followers have failed to realize it. The relativist is not justified in concluding that simultaneity is relative, since it is only relative in the mistaken perception of the moving observer.

If one subscribes to the logic behind Einstein's derivation of the relativity of simultaneity, then one must also conclude that a lightning strike and the sound produced by it are two separate events. In other words, when I see lightning, and then seconds later hear the thunder, I should conclude that the strike and the thunder are not produced by the same event, or at least are not produced simultaneously. I should conclude that the lightning happens, and then the thunder happens. Even though the lightning produces the thunder, and so practically instantaneously that the lightning strike and the production of the thunder can be considered the same event, according to the logic behind relativity, I must conclude that, if I'm far distant from the lightning strike, I should conclude that the thunder happens subsequently to the lightning, and the further I am from the strike location, the more temporal separation I will attribute to the two events. But no sane person does such a thing. We see lightning, and we count until you hear the thunder to judge how far away the strike was. We know it's the same event.

Let's say that instead of one person on the train, there are three: one at the rear, one in the middle, and one in the front. The one at the rear, then, will say the lightning hit the rear first and hit the front second. The person in the middle will say the lightning hit the front first. The person at the front will obviously say the lightning hit the front first. So we have one vote for the rear first, and two for the front first. Are we supposed to settle the conflict by majority rules? Because, according to relativity's reasoning (that says that whichever flash we see first means that's the one that hit first), then all three must be correct. They're all in the same reference frame. So if they're all correct in their assertions, how do we reconcile their conflict?

The relativist will say that if the person at the rear performs a quick mathematical calculation, he will see that the light actually hit the front first, in agreement with the other two people. (THE FOLLOWING IS AN ADDENDUM TO THE PREVIOUS SENTENCE: isn't it true that the person at the front can also

perform the same calculation, which will show that the rear bolt hit first? If they're both assuming they're stationary and that the speed of light is constant, their respective calculations about the order will disagree. So the relativist can't even use calculation to refute my example. This whole calculation paragraph is actually an assertion made by a youtube.com person in response to something I posted in response to a youtube.com video on relativity. But this supposed objection to my argument doesn't work, because both people's observation and calculation will give exactly opposite results as to the order of the strikes. Each will see the strike beside them first, but will calculate that the other strike hit first. So only my clock thought experiment as outlined below can give a definitive answer. FURTHER ADDENDUM: duh, I just realized: the guy on youtube.com was taking into account the motion of the rocket. The rocket observer's don't know they're in motion, and so they use the constant length of the ship and the speed of light in their calculations. Since they're moving toward the forward light, the people at either end will calculate that the forward strike happened first. Their calculations would only give opposite results, as I said, if the ship was not moving. So in this case, the relativist's objection stands.)

Let's try a different way to judge the timing of the strikes. Each person on the train now has a clock. The clocks have all been previously synchronized at the middle of the train, then two of the clocks were instantaneously teleported to the front and rear. Or they were carried there so slowly that time dilation wouldn't effect the synchronization.

The lightning bolts strike the front and the rear as before. The front person says the front bolt hit first, at precisely 10:00 according to his clock, and the light from the rear hit second. The middle person sees the light from the front at 10:01 according to her clock, and the light from the rear at 10:02 (yes, this is obviously very slow moving light). The person at the rear says the rear bolt hit first, at precisely 10:00, and the front bolt hit second.

After the strikes, our three people gather at the center of the rocket and compare notes. Wonder upon wonders, the two people at the ends, situated right atop their respective strike sights, see that both the bolts hit at the same time, according to their clocks. The woman at the center disagrees, saying each strike hit at different times. Using the data thus gathered, all they can logically conclude is that the lightning strikes hit at the same time, and any appearance to the contrary is the result of their motion. Any calculations performed by the front and the rear person, which seem to show that

You claim that I don't understand relativity and you do because you've had a university education in physics and I haven't. But I ask you this: how did you learn relativity at your university? Did you actually come to comprehend relativity by thinking it through, or did you merely learn it by rote, memorizing the fundamentals in much the way that a child learning math memorizes his multiplication tables? I tend to believe that, for the vast majority of people, it's a matter of learning by rote. You memorize what's been drummed into your head, and then spew it back in your debates with me. But I don't think you've ever actually taken the time to sit down and truly think, to mentally examine, what you've learned. And

anyway, what makes you, with your university education in physics, any more knowledgeable than me? I've studied relativity for ten years, reading physics textbooks and popular science books. I am constantly sitting and pondering the subject, much in the way that the sainted Stephen Hawking is lauded for sitting in his wheelchair and pondering. Whereas you, with your university education, have most likely studied relativity for the equivalent of a few hours, if your major is general physics, or for perhaps a semester or two, if you've taken courses devoted to relativity. So let's see: we're pitting your university education of perhaps six months at best against my constant thought and study for ten years. Whose education is better? Yours, because it agrees with the consensus and has a piece of paper with fancy lettering to back it up? Or mine, with a decade of devoted thought, wrangling with the fundamental concepts of relativity? Never mind your mathematics; mathematics are irrelevant if I reject the fundamental concepts. You can have a system of consistent mathematics supporting anything, but if that anything is fundamentally flawed, then your supporting mathematics mean absolutely nothing. Understanding the mathematics makes no difference to my acceptance of your theory. Does it matter that I can calculate how much time is dilated in a given reference frame if I reject the entire notion that time dilation actually occurs? Mathematical understanding and conceptual understanding are two different things, and I do not believe that mathematical understanding is more fundamental than conceptual understanding, nor is the former required for the latter. You and your PhD can laugh off my rejection of relativity all you want, saying I simply don't understand and am an idiot. But from my point of view the reverse is true. No matter how many millions of physics doctorates are telling me that $2+2=5$, you won't sway my belief in your fallacious assertion. When it comes to truth, majority does not rule, and scientific consensus does not dictate truth about the natural world.

Relativity requires one to accept the belief that there is no such thing as absolute space and all that exists are distance and motion relations between things. So the first step towards accepting the "truth" of relativity is to reject the notion of absolute space. The first step in relativity, then, is to make a metaphysical leap and a philosophical judgment. I'm not willing to give up the notion of absolute space, because I believe to do so is to reject truth and accept absurdity. And since acceptance of relativity is contingent upon this rejection, I can and will never accept relativity, because I believe relativity is thus fundamentally flawed. It does not matter to me how much experimental verification there supposedly is for relativity. If there truly is experimental data that supports relativity, then I believe there must be some other explanation than relativity. Just because theory fits data does not necessarily mean theory is true. And just because millions of educated people support the theory that fits the data does not mean the theory is true. I'm not afraid to buck the scientific elite and risk being called stupid, or that I lack understanding; I *know* I'm not stupid, so if people think I'm stupid for rejecting relativity, then so be it. And I know I don't lack understanding; I do understand relativity; I just see the fallacy at the heart of it, and so reject it. And I know that in the future, the truth will bear me out. I know this with the same

certainty that all scientists assure us that the final theory that explains everything will eventually be found. I now have such a strong conviction that relativity is incorrect that I actually find myself laughing when I hear physicists explaining relativity. It's like watching COPS on television, listening to some crook lying to the police about why it is that he couldn't possibly have committed the crime, even though both we and the cop know the crook did commit the crime. And these crooks say the silliest things with an utterly straight face, as if they actually think they're telling the truth, or that we're actually gullible enough to believe them. It's very amusing. When I listen to physicists I jab my finger at them and shout with an outraged laugh, "Bullshit! You're spewing absolute bullshit!" And in this case the cop, played by the public, actually DOES believe the crook. All because our society has brainwashed the public to believe that anyone with a PhD automatically has more common sense than the average man. Yet these supposed experts are nothing more than third graders reciting their carefully memorized multiplication tables to kindergartners.

Let's say there are only a handful of people on the planet stupid enough to understand how $2 + 2 = 5$. That makes them experts on the subject, right? And if they organized themselves to teach their method, they could hand out diplomas to anyone else stupid enough to master their subject. Should the rest of the world then look at these idiots with diplomas to back up their idiocy, and say, "Wow, I don't at all understand how $2+2=5$, it seems insane, it goes against my instinct and knowledge, but I'll take these idiots on their word that $2+2$ does indeed equal 5, because after all, they've got the credentials to back up their claim. So they must know better than I do. They're the experts."

Let's say you've got a group of people moving through space at a constant velocity, but individually they are stationary relative to one another. They toss balls and other objects back and forth between themselves. The balls and other objects have no connection to, they are not dependent upon, the space between the people. So the balls and other objects, because they are part of the group, exhibit no strange effects, as far as the people within the group can tell, as they traverse the space between the people in the group. In fact, nothing that passes between the people, not even sound, depends upon the space between them. When they shout, everyone in the group can hear everyone else, without any distortion.

Now suppose we have another group, similar to the one above. The only difference is that the space through which this group is traveling is filled with some sort of elastic medium that is at rest relative to the group and relative to space, such that the medium could be considered synonymous with space. Some of the objects they are tossing back and forth are "bound" to, or made of, this medium. For all intents and purposes, these particular objects are part of the "fabric" of this medium. Therefore, when they are tossed between members of the group, they travel through the space between the members as moving "ripples" or "lumps" in this medium. Because of this, these particular objects, when tossed back and forth, exhibit strange effects. There is a limit to the speed with which the objects can traverse the space between the

people, due to the medium through which the objects propagate. They don't travel in straight lines between the people; rather, they move in trajectories dependent upon the direction of the group's motion relative to the medium.

In this second group, let's suppose that air is the medium filling the space between the people in the group. They are thus in motion relative to the air, and for the sake of our example, the group is traveling faster than sound propagates through air. In this group, unlike the first group, sound depends upon the space between the people in the group; it requires the medium to traverse the distance between people. Thus, since the group is in motion relative to the medium, if someone shouts, someone else further forward along the direction of the group's travel will not hear the shout, while those further back in the direction of the group's travel will hear a lower pitched sound.

Relativity uses the speed of light to define time. Let's look at why that's a mistake. Speed is motion. It is distance covered over time. In other words, speed has time in the equation. Speed is a relationship between distance and time. So using speed to define time is circular reasoning. It's like saying time passes because time passes. So if relativity uses the speed of light to determine how much time has passed for a given observer, it still hasn't gotten to the heart of the matter. By relying on speed to define time, it has not revealed anything fundamental, since speed is a compound of two different things, namely space and time. Relativity still has said nothing about the fundamental nature of time, even though most scientists will tell you it has. Relativity says, "Time is based on the travel time of light." In other words, time is based on time. A circle is a circle because it's a circle.

If, as relativity claims, we can with equal justification choose any reference frame and call that one "at rest," with the result that no reference frame is privileged and really "at rest," then why cannot the Christian say that, since God created man, man is therefore special in the universe; and that therefore, man is justified in claiming that Earth's frame is truly "at rest," and the rest of the universe is in motion relative to Earth. In other words, the ancient view that the sun revolves around the Earth, indeed that the entire universe revolves around the Earth, is the correct view. If any reference frame we choose can be regarded as "at rest," why not choose Earth's frame? Perhaps God truly did create Earth "at rest," and Earth is the only body in the universe "at rest."

Most physicists would say that there are certain astronomical observations that can only be explained if the Earth is revolving around the sun. These observations are what led Copernicus to his sun-centered model of the solar system. But if this is true, and certain observations can only be explained in terms of a sun-centered model, does this not violate Einstein's assertion that any reference frame can with equal justification be regarded as "at rest?" For does not Copernicus show us that Einstein is incorrect? If scientists wish to uphold Einstein, then there must be some way to explain astronomical observations such that Earth can be regarded as "at rest." And if so, then the Christian, with his belief in God, is

perfectly within his right to assert that the universe is centered on the Earth, and no scientist can legitimately refute the Christian.

For the moment, putting aside the theological/scientific dispute to which my previous assertion gives rise, let's suppose that the Earth truly is the absolute rest frame, and that the universe revolves around the Earth. What might we expect to be the observational and experimental results of such a situation? What new conclusions might we be led to, what new discoveries might be made? In other words, has no one thought to reconsider the view that the universe revolves around the Earth? It was supposedly definitively refuted by Copernicus. But what if that refutation was itself a mistake? Why not go back and look at the implications of an Earth-centered universe, in light of the centuries of scientific knowledge that have accumulated since such a view was abandoned? Are there any scientists willing to put aside their scientific prejudices and cogitate upon the matter? For if relativity is correct, as they assert, then it must be possible to view Earth as the "rest" frame. Why not go one step further, and pretend that it is the one true rest frame, and all other frames cannot validly be regarded as at rest.

The first thing such a geocentric view explains is the null result of the Michelson-Morley experiment. One might even say that Michelson-Morley is proof of the geocentric view. One wonders if this has ever been considered.

The immediate, ready response of the relativist is probably, "Earth is rotating about its own axis, and it's rotating around the sun. Rotation is acceleration, and accelerating frames are not inertial frames. Therefore Earth is not an inertial reference frame. Einstein's assertion that all reference frames can with equal justification be regarded as at rest only applies to inertial frames. Thus Earth cannot with equal justification be regarded as at rest. Therefore your argument is invalid."

But this response presupposes the conclusion. It presupposes that the Earth is rotating about the sun. If we claim the Earth is at rest, then the above response of the relativist is invalid at the outset. Earth is only rotating if you assume it is actually in motion. In the geocentric view, we're saying Earth is not in motion. We deny any motion in the Earth. The sun and the universe are rotating around the Earth, in such a way that to an Earth-bound observer, it appears the Earth is the one moving. But that's just an illusion. The Earth is at rest. The Earth is the only true inertial frame, and the entire universe is accelerating around the Earth.

Next the relativist will probably accuse me of being a Christian and dragging God into the argument. This alone, from the viewpoint of the relativist, is enough to discredit my little theory. No further investigation is therefore needed.

But I'm not trying to drag God into this. I'm merely trying to go against currently accepted wisdom and see where it leads. Accepted wisdom says the Earth rotates around the sun. I'm saying maybe it's time to reconsider the reverse. Accepted wisdom says there is no absolute frame of reference. I'm saying maybe it's time to consider that there is. Forget dragging God into the argument. Maybe there's a different reason why Earth is the center of the universe. Why should Science refuse to "go there" just

because the territory smacks of God? Who is the fanatic here, holding fast to accepted dogma? The religious person, or the scientist? When you're stuck in a rut, thinking beyond dogma, beyond accepted wisdom, is the only way to advance from the rut. And it seems to me that Science is currently stuck in a rut. Why then do so many scientists turn up their noses at thinking in directions that depart too radically from their accepted notions? Are scientists so attached to the ideas keeping them in a rut, that they're unwilling to cast a mere exploratory thought along radical paths? Are they just unwilling, or have they been so thoroughly indoctrinated that they're completely incapable of such thought?

Clarification: I'm not even saying that everything in the universe is revolving around the Earth. I'm not saying Mercury, Venus, et al, must revolve around the Earth. I'm saying that overall, the entire universe revolves around Earth, it's all centered on Earth. Locally, there may be objects that don't revolve around Earth. They may revolve around other bodies, which revolve around other bodies, etc. which themselves revolve about the Earth. The whole universe, overall, revolves around the Earth. The Earth is at absolute rest. No rotation, no motion through space—nothing. Our task is then to figure out why this is so, and what conclusions we might draw from the situation. Maybe if certain theories were reworked slightly, they would support geocentrism, and would be the stronger for it.

If scientists rule out geocentrism as definitely impossible, then scientists must also concede the following: while we cannot by any experiment determine an absolute rest frame, we can determine frames that definitely cannot be at rest. Thus, there must be at least two categories of reference frames: those that could be at absolute rest but cannot be proven by experiment to be at absolute rest, and those that definitely are not at absolute rest. So we cannot prove by experiment that any frame is at absolute rest, but we can prove that some frames are definitely not at absolute rest. Thus if two frames are in relative motion, it is not equally valid to say that either frame is in motion or at rest with respect to the other, since there will be some frames that can be proven to not be at rest. Thus, again, we come across another error in Einstein's theory.

So relativists must either accept geocentrism as a valid possibility, or reject it and thus deal a blow to relativity.

In regard to the flashes of lightning at the ends of the train: forget about "the rocket's midpoint observer says this, while an outside observer says this." All that matters about the actual timing and sequence of the flashes is what a clock right at the point of the flash says. ***When you put observers at points distant from the source of an event and the observers try to judge which of several distant events took place first, they're not actually judging when each event happened, or the sequence of the events..*** All they're judging is when the light from each event reached them. The event itself and the light from the event reaching them are not synonymous. They're two different events. So distant observers can't say that, because the light from this event reached me first, therefore this event must have happened first. If A and B are two distant events, and I observe that event C-linked-to-A

happens before event D-linked-to-B, it is an error for me to conclude that therefore event A happened before event B. ***To see which of two events actually happened first, distant observers must travel to the point of each event and compare the readings of synchronized clocks taken at the point of each event.*** And by “synchronized” clocks, I don’t mean distant clocks that have been “synchronized” using light pulses bouncing back and forth between them. As far as I’m concerned, using light pulses to “synchronize” clocks is just “hiding the error” of relativity. The logical error is still there, but by using light pulses to “synchronize” the clocks, you’re just “sweeping the error under the rug.” Synchronizing the clocks is thus just a way of accounting for the error and pretending it doesn’t exist.

Just because I can’t as yet offer a viable alternative to relativity doesn’t mean that I have to accept relativity. “It’s not perfect, but it’s the best theory we’ve got,” is usually the rote response given to anyone who points out the shortcomings of relativity. But just because we haven’t got anything better doesn’t mean one has to accept a theory one believes to be fatally flawed. If there was only one woman left on Earth, and she was hideously, grotesquely repulsive, I wouldn’t throw a bag over her head and pretend she was a gorgeous angel. I would still know the truth. Relativity is utterly flawed, and I don’t care how much experimental data supports it, I firmly believe there are other explanations for that data. The same data must also support another, correct theory, even though I have no idea what that theory is. But I do know what that theory is not: relativity. Call me a crackpot and a fool if you will, a brainless idiot who refuses to accept physical fact, but I have no doubt time will bear me out.

The reason I am regarded as a crackpot by mainstream scientists: most of them sat in physics classes at university and memorized by rote the theories and equations that were thrown at them. They said, “Okay, $e=mc^2$, I get it, makes sense.” They took in the theory and accepted it at face value, never really taking time to ponder what they were being taught. It looks good on the surface, and so they accepted it. But if you dig deeper and really think about it, relativity is a house of cards that quickly falls apart under deeply thoughtful scrutiny. And most students never did this; they acquired a superficial understanding of the theory, and have never moved beyond it. So now, when someone like me, who truly understands the flaws of the theory, stands up and points them out, the mainstream, with their by-rote, superficial understanding, thinks I’m an idiot, when in fact I’m walking circles around them, thoroughly trouncing their theory, and they don’t even realize it. They are actually unable to recognize the truth slapping them in the face. They have been so thoroughly “educated” by their self-perpetuating system that they are unable to even entertain the notion that their theory might be in error.

What phenomena is there in nature that we could look to that might give us some idea of the true nature of light, and how everyone, regardless of their state of motion, could measure the same speed for it? How about parallax? Suppose when we’re motionless, light is sort of like a line seen from one end—a

point. But when we move, the end moves away from us, and at the same time, the other end swings into view, sort of like the line is rotating in the direction opposite that of our travel. Now, the speed with which this rotation, this separation of the dot into a line, depends upon our speed. The greater our speed, the greater the speed at which this “separation” happens—but it happens at a constant proportion. Perhaps this “constant proportion of separation” is what we’re measuring when we’re measuring the speed of light. As our speed increases, the light sort of “breaks into two,” or we observe a parallax effect, and the speed of light that we measure is actually the proportion at which this happens for our given velocity—which is the same proportion that another, slower moving reference frame would measure in the same beam of light.

An observer in a car moving past a cornfield will see alternating rows forming a sort of “spider” that runs alongside the car. This is the parallax effect that I have in mind. Light actually does not move; its sort of like the “spider in the cornfield,” a rotation of the light in a higher dimension, and when we measure the speed of light, we’re measuring the rate of the parallax, not a velocity through space.

So what we think of as a photon traveling through space is just the other end of some higher dimensional structure that is undergoing a parallax effect due to our motion, like the running legs of the spider in the cornfield. The other end is not really moving, it just seems that way due to our motion and the other end being more distant from the end closest to us (in some higher dimension). I guess what I’m trying to say is that a photon is actually some sort of higher dimensional linear structure the length of which is perpendicular to our direction of motion, or perpendicular to our space, or...?

Don’t know if this makes any sense. This is just an idea I came up with, just now. Have to think more on it; don’t know much about parallax, so don’t know the terminology. Will look more into it.

1 Scotty = the amount of force required to shift 1 atom by 1 unit of time. This unit is of course named after myself.

Racer in car hears no change in pitch in the sound of his car, while spectator in stands hears an rrrRRRRrrrr—Doppler effect. The sound itself doesn’t change, there is still a Doppler effect. Racer doesn’t hear it because there is a difference between his relationship to the sound and the spectator’s relationship to the sound. This difference is how the racer’s ears perceive the sound, and how the spectator’s ears perceive the sound. The sound itself does not change.

So—light bulb on a planet. Observer standing next to bulb notices no change in the frequency of the light. Observer stationary relative to Earth will disagree with Earth observer on frequency of light. Frequency doesn’t actually change. What is different is the relationship of each observer to the light. This difference is how each observer’s eyes perceive the light—analogous to the racer and the spectator.

Einstein developed relativity when he saw an apparent incompatibility between Galilean relativity and

Maxwell's equations, which predict a specific speed for light. Since this specific speed must be relative to a medium, and Michelson-Morley supposedly showed there was no medium, Einstein said there IS no medium and that time dilation resolves the incompatibility. So to accept relativity you must accept as fact that there is no medium. Therefore, if you refuse to accept this, then you cannot accept relativity.

On Coast to Coast, George Noory was interviewing a Nobel Prize-winning physicist who had discovered the equations for the strong and weak nuclear forces. This physicist made the statement that the more physicists learn about nature, the more abstract it is becoming. Nature is at heart an abstraction, he said.

But is nature becoming more and more an abstraction because that's the way it really is? Or is it becoming more of an abstraction because physicists are descending ever deeper into relying on mathematics? Physicists these days accept nothing unless there are pages and pages of equations to support anything. They come up with their new theories by extending existing equations, or developing new ones. They look to their equations to point the way to new insights. They refuse to think except in mathematical terms. One wonders if they are even capable of thinking in conceptual, non-mathematical ways.

Mathematics, especially the complex kind physicists deal with, are extremely abstract. So is it any wonder that our Nobel Prize-winning physicist says that they're discovering nature is an abstraction? But is it really? Do the equations of physicists bear any resemblance whatsoever to reality?

I just heard Michio Kaku say on Art Bell in regards to black holes that "that's what the math seems to indicate." Like I'm supposed to believe that, "Well, if that's what the math seems to indicate, then it must be so." Who cares what the math seems to indicate? The math seems to indicate that if I take five apples away from three, I'll be left with -2 apples. So I *don't* have two apples. As if negative apples are something I can actually possess. Why give such authority to math, when we're dealing with speculative theories?

I just heard Michio Kaku on Art Bell. He said that the simplest explanation for the Schrodinger's Cat paradox was the many worlds hypothesis.

...what?

How is that the simplest explanation? Let's see...Billions of parallel universes created every second, or our quantum mechanical theory is wrong. Hmmm. Oh, obviously the many worlds theory is the simplest explanation. Sure. I think the reason scientists are so unwilling to think quantum mechanics is wrong is this: just before he said this, Kaku also said that quantum mechanics makes possible transistors, laser beams, etc. But again: quantum mechanics does NOT MAKE THESE THINGS POSSIBLE!!!! As if, had we not had a theory of quantum mechanics, then these things wouldn't work. Quantum mechanics is an explanation for observed phenomena. It does not make those phenomena possible. We could have these

technologies without understanding the why of the processes behind them. The very fact that we DO have these technologies DESPITE our flawed theory of quantum mechanics, proves this.

I often hear scientists say something similar to the following: “Quantum mechanics undoubtedly seems strange and counterintuitive, but we know that it’s true because most of our technology is based upon it, our technology would not work without quantum mechanics.” As if a prerequisite of having a technology is having a particular theory that supports the technology. Must a caveman have a theory of thermodynamics in order to use fire? Of course not.

As an example, here is a direct quotation from the Faculty Senate Statement of Science (February 2007) of the University of Oklahoma: “Some of the great scientific discoveries upon which our technology is based include the atomic theory (Physics and Chemistry), quantum theory, electromagnetic theory, Newton’s theory of gravity, and the theory of relativity (Physics), the theory of plate tectonics (Earth Science), and the theory of evolution (Life Sciences).”

But this is foolishness. Our technology is not based upon quantum mechanics; actually, the reverse is true: quantum mechanics is based upon our technology. Or rather, quantum mechanics is based upon our observations. To say that our technology is based upon quantum mechanics is as foolish as saying that electricity is based upon atomic theory. Atomic theory was created to explain electricity; electricity does not exist because we came up with atomic theory. Electricity would exist whether or not we had an atomic theory, so electricity cannot be based upon atomic theory. Likewise, our technology, or rather the workings of nature behind our technology, does not exist because of quantum mechanics. We came up with quantum mechanics to explain the observed workings of nature.

You could argue that our development of quantum theory, and our subsequent understanding of it, made it possible for us to develop our technology; without this theory we would not have been able to develop our technology. But I would argue that we could have come up with our technology without a quantum theory. It might have taken us longer, as we stumbled blindly along without a theory to guide us. But we would have eventually developed our technology without quantum theory. Just like you don’t need an understanding of the molecular structure and molecular behavior of water to be able to make a dam and harness the energy of moving water. Just like you don’t need an understanding of atoms and electrons to make electricity flow through a wire.

Nature and its workings exist *regardless* of our understanding; our lack of understanding does not render nature inoperative. If we come up with a theory to explain those workings, it does not mean that those workings are based upon our theory. That’s absurd. Yet this is precisely what scientists are saying when they say, “Our technology is based upon such and such a theory.”

I say all this to make the following point: when I say I think something like relativity is nonsense, and a scientist tells me I’m a fool and a crackpot, because relativity is proved by countless experiments and observation, what the scientist is telling me is akin to telling me that our technology is based upon

quantum mechanics. Relativity is not *proved* by observations; it is put forward as an explanation *of* observations. Thus if I disagree with relativity, I'm not necessarily disagreeing with observations, but with relativity's explanation of those observations. To say that relativity is wrong is not to say that observation is wrong, or that experimental results are wrong. If I were to say, "The sky is not blue," when clearly it is indeed blue, then I would be a fool. But if someone tells me, "The sky is blue because..." and I disagree with their *because*, I am not disagreeing with the fact that the sky is blue. I am disagreeing with their explanation of *why* it is blue. Relativity is not saying that the sky is blue, so to speak; it is saying that the sky is blue *because*. And it's the *because* with which I disagree.

If I isolate a cross-section of a human arm and examine it independently of the rest of the body, pretending complete ignorance of the human body, such examination of the cross-section will tell me little about the human body as a whole. In a like manner, perhaps dividing up an atom into protons, neutrons, and electrons, considering each independently, is the same sort of thing I've just illustrated with the human body. If I'm studying the atom, breaking it into smaller parts is a mistake. That is, perhaps studying an electron, or a proton, or a neutron, or a quark, independently of the whole atom, is a mistake; perhaps they *cannot* be studied independently without missing a part of the picture. Maybe the functions attributed to electrons are an emergent property of the electron's interactions with the rest of the atom, and by attempting to study the electron in isolation, we are unwittingly putting blinders on our understanding of the electron, or the atom as a whole.

In the illustration where the light beam is shining from the rocket's center to a side wall and back again, the claim is that an observer in the rocket sees the beam traveling straight up and down from center to wall and back, while an outside observer sees the beam traveling a longer, zig-zagging path through space. This latter is the equivalent of saying that the outside observer sees the beam being carried along with the rocket. In other words, the outside observer is witnessing an addition of velocities. Since relativity claims that both observers must measure the same speed for light, the outside observer concludes that time is dilated for the observer in the rocket. But the very assertion on which time dilation is founded is false, namely that the beam is being carried along by the rocket. This is in conflict with another physical assertion: that a beam of light is independent of the source, that is, the state of motion of the source is irrelevant. This "independence of the source" is what gives rise to the Doppler effect.

Inertia is an actual force that keeps objects in their current state, whether that state is motion or rest. Gravity is a force that imparts direction to the inertial force. It "attracts" inertia.

lilmacca182 (someone on youtube responding to a comment I wrote on a video on relativity): "If the woman sees both flashes of light at the same time, then the man on the platform must agree that she saw

both flashes of light at the same time. However, because the train is moving in the man's frame of reference, then the man must conclude that, if the woman saw both flashes of light at the same time, then the lightning must have hit the back of the train first because the light had to travel farther to reach her because she is moving away from the source of the light.”

So if the woman seeing the flashes at the same time means the lightning must have hit the back of the train first, it therefore means that if she sees the flashes at differing times, the lightning must have hit the ends at the same time. Correct? So let's then move on to another example used to illustrate relativity: let's say the woman shines a light toward both ends of the train. Since this is merely the reverse of the first example, the light, in keeping with our first example, must therefore strike the forward and rear walls at differing times. The light from both ends will then return to her at the same time (ie she will “see” the light hit the walls simultaneously). So even though, from the evidence of her eyes, the light hit the walls simultaneously, we know it didn't really. Her eyes are deceiving her.

What the woman sees and what is reality are two different things.

Maxwell says either light speed is the same for all, period, or it's the same with respect to aether. Einstein says same period, due to no evidence for aether.

Let's say I'm inside a rocket ship. In all the universe, there is just me inside my rocket—no planets, no stars, nothing. I measure the speed of light. I then hit the “accelerate” button on my rocket and fuel spurts out the back. I feel a gentle push as I apparently accelerate. But how do I know I've accelerated? There is nothing external against which to judge my forward motion. And when I measure the speed of light, I find it to be the same as before I pushed the accelerate button. So: a force has obviously been exerted, I felt the forward push—but how do I know I'm moving? And at what speed? If everything is truly relative, if there is no absolute space, how can I judge my motion and my velocity?

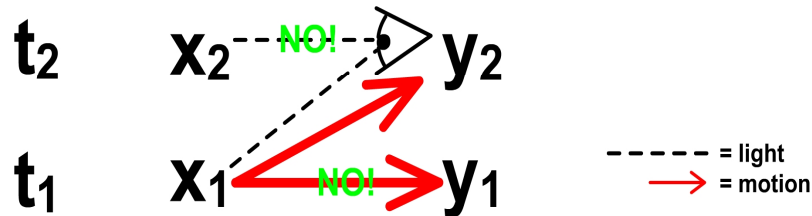
Let's say we have two reference frames, A and B, and one is in uniform motion relative to the other. The relativist says we can't say which one is actually moving, so we are equally justified in choosing either as the one in motion. But say A is enormously larger than B, such that if we choose B as the one in motion, for the entire time B is in motion, it is traversing the volume of space occupied by A. B, in effect, is contained within A. Would it not be common sense to say that B is the one really in motion? The relativist would say no, because it is possible that A is moving as well. If that is the case, then A, like B, is moving within the space of a third reference frame, C, that must necessarily be larger than A. So it would be common sense to say that A is in motion relative to C, and perhaps B is motionless relative to C and so appears in motion relative to A.

This infinite regress of reference frames arises because, if a reference frame is in motion, that means there must be space in which it can move. But suppose frame C has no space in which to move. There is

then no possibility of a larger reference frame. So C must be the absolute reference frame, since it is out of space to either move or expand; it cannot be contained within a larger reference frame. So C is absolute, and all other motion is relative to it.

Source of magnetism in magnets: passing light sets up a sort of “resonance” in certain materials, so that the material becomes magnetic. The EM wave thus “powers” the magnetism in magnets.

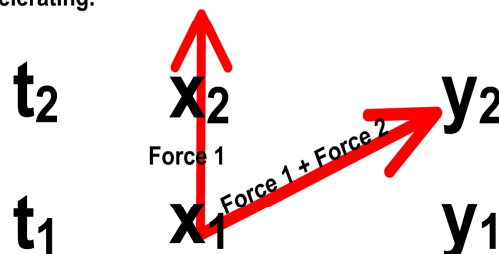
To test this, we can test the strength of magnets in the absence of EM radiation. If EM waves are “powering” the magnet, or even affecting it, there should be a corresponding reduction in the strength of the magnet’s field, or even a dissipation of the magnetic field.



At t_1 , I am at position x_1 . Pretend x_1 is directly beside my couch in my living room. I look across the room at y_1 , which is occupied by my television set. I determine that I shall cross the room to my television set and change the channel. I then begin my trek, moving **THROUGH TIME** to position y_2 , which I mistakenly believe is y_1 , since it looks exactly like y_1 . But since motion must always involve time, I can never truly move across space alone. I can **NEVER** move from x_1 to y_1 , nor can I move between any other spatially contiguous points. When I arrive at y_2 and look back to my previous position, I am **NOT** looking at x_2 . I am looking at x_1 , an entirely different location, not the x_2 that is co-spatial with y_2 . x_2 is not yet within my visual perception, even though it is co-spatial with y_2 . y_1 still exists at t_2 , but I am "on top of it," as it were. I have "moved above it."

Motion is always **ACROSS TIME**, never through space by itself, that is, never through the three dimensions of space as we perceive them. Time is thus another dimension of space, a fourth dimension at right angles to the three we perceive with our sight, hearing, etc. And so I can never move up-down, left-right, or forward-backward. I can only move in the time direction, and in so doing fool my senses into believing I **HAVE** moved up-down, left-right or forward-backward.

To move from x_1 to x_2 I don't even need to move as I would move across the room. I have only to remain stationary, and in the next instant I will be at x_2 , whether I wish it or not. At each instant of time I am changing location, arriving at another section of 4-space. It looks like the same spot I was in the previous instant, but it is actually a separate, distinct location. What force is impelling me to change my temporal location, the way I would throw a ball seemingly across the room? And how does the additional force which I must exert to change my spatial location compound with this other force? In doing so, I am in effect altering my course across the temporal dimension. I am changing my path from straight to diagonal. I am accelerating.



Force 2 is a "voluntary force," Force 1 is not. That is, Force 1 impels me forward regardless, while in most cases I can choose to exert Force 2 to change my position.

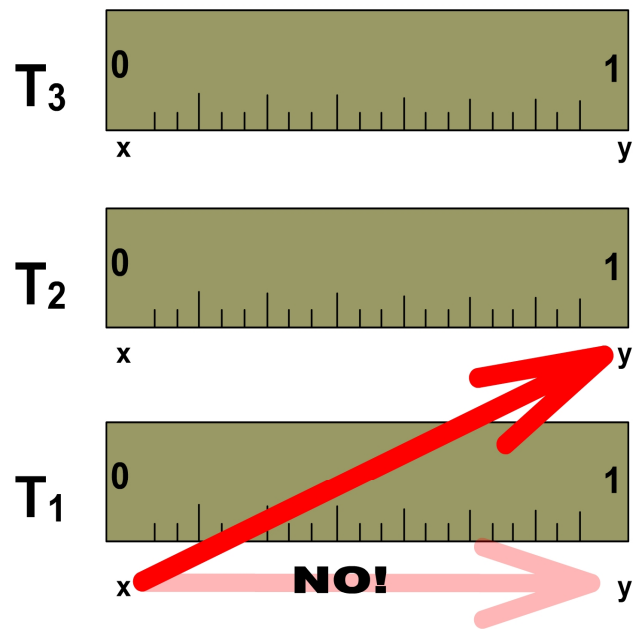
Additional notes for my “time as space” picture (the above picture):

Also, suppose that at t_1 I have a yardstick that tells me the distance from x_1 to y_1 . Thus, I have a precise measurement for the distance from x_1 to y_1 . Suppose x_1 is my current position and y_1 is a bookcase 3 feet away as measured by the yardstick. If I move to the bookcase, it would seem a valid assertion that I have moved 3 feet. But have I? Since I can never move from x_1 to y_1 , I can never traverse those 3 feet. I can only traverse the distance from x_1 to y_2 . And what proof do we have that such distance is the same 3 feet as measured by my yardstick? How do we measure the spatial distance from x_1 to y_2 , since it is not truly a spatial distance, but a temporal one? In other words, my bookcase is never 3 feet away from me; rather it is 1 second away, or however long it takes me to move from x_1 to y_2 . In other words, when I'm in motion, we can never say how far I've moved in space, since motion is never through space, but through time. It doesn't matter how precisely we measure a distance through space if, in moving, we never actually traverse the measured distance, since the beginning point of our motion is never co-spatial with the end point. When you reach the end point of your motion, then beginning point is a spatial point in the past, which is not the same spatial point that is co-temporal with you (t_1x_1 does not equal t_2x_1).

Thus the time dilation and length contraction postulated by relativity are without base, since there is no fact of the matter as to how much distance light or matter has traversed during any given interval of time. The phenomena are the result of comparing distances traversed in two inertial frames, and since the distance traversed is not a spatial distance, the supposed time dilation and length contraction arises due to relativity's misconception of the nature of motion.

In other words, the distance traversed in traveling between two points is not the same as the distance between those points as measured by a yardstick or any other measuring device. So such distance measurements should not be used in any calculations involving motion.

NOTE: I am not here simply saying that time and space are relative, and hence not realizing that I'm actually agreeing with relativity. If you think this through, you'll see that I'm not saying space and time are relative; I am saying that spatial distance is *irrelevant* when motion is involved.



In other words, even though I have a ruler, as above, that marks off the distance between two points, x and y , I never actually traverse that distance in moving between these two points. I actually traverse a distance between each time, which is not really a spatial distance at all. So even though at each moment in time there is a ruler marking off the same distance between the spatial points, when I move I never actually cross that distance, so it is irrelevant.

Tetrahelix wrote (in response to a comment I posted on youtube): “Actually, the observer at the back of the train, while seeing the lightning hit the back of the train before seeing the lightning hitting the front, would be able to determine, by calculating the length of the train and dividing by c , that the lightning hit the front of the train first.”

So let's say that both the front and the rear are fitted with light sensors containing digital clocks that have previously been synchronized at the center of the train, so that both clocks read 11:00. The lightning strikes, and the sensors stamp the exact time of the event. Each man then calculates the timing of the strikes according to when each saw the strikes. They then take their clocks and sensors to the center of the train and compare both clocks and their own calculations. Their sensors will agree that the strikes were simultaneous, but their calculations won't. In other words, each man will claim, due to his calculations, that the strike on the opposite end of the train from him occurred some time after the strike that hit his end. But their sensors will agree that both strikes happened simultaneously. Which conclusion is more reasonable? That the actual physical sensors are in error, and the disagreeing calculations are truth and hence give rise to a paradox solved by relativity; or that the sensors are correct, and the calculations are misleading and so invalid?

The reason I give no credence to someone who says that relativity has been proven mathematically, and that you can't argue with mathematics is this: taking something that is true mathematically and trying to apply it to the real world can lead to absurdities. For example, say I have three apples, and I take away five. I'm left with -2 apples. First, if you physically have three apples, then it is impossible to take away five. And second, if I could physically take away five apples from three, what would it mean to say I have -2 apples? But yet it is mathematically provable that if I take five apples away from three, I'll be left with -2 apples. Because of these sorts of absurdities that can arise from trying to apply mathematics to the real world, it doesn't matter to me if a theory is mathematically consistent. If the applications of those theoretical mathematics lead to physical absurdities, to conclusions that contradict common sense, then the theory must not be true. For that reason, I believe mathematics are and will always be secondary to a physical theory. First comes concept, and then observation and then mathematics.

There is a certain distance which is the greatest distance it is possible for me to move in the smallest instant of time. It is impossible to move any further than this distance during the smallest instant of time. This distance is the furthest a body may move before one instant transforms into the next. If I were able to traverse this distance during the smallest instant of time, it would be the equivalent of crossing this distance instantaneously. I would, in effect, be in two places at once.

Let's say the smallest instant of time is 1 billionth of a second. Then, for reasons I would hope are obvious, the distance discussed above equals 1.86 miles. So: 1.86 miles would be the furthest any object could possibly move before one instant changes into the next instant. Think about what this means. It means that if, in one billionth of a second, I moved from an initial position to a final position 1.86 miles away, no time will have elapsed in my movement. All of my motion will be in space. What this equates to is that, for one billionth of a second, my body will occupy every spot in the space along the path I traversed in crossing that 1.86 miles. This does not mean that there will be a huge number of copies of

myself along that path. What it means is that my mass, my body, will be *spread out* across my path for 1.86 miles. My body will be *elongated*, it will be 1.86 miles long. Any mass, no matter how large or small, traveling at identical speeds, will be elongated by an identical amount. That is, the amount of elongation does not depend upon mass, it depends upon velocity.

You could argue that I'm proposing nothing new here; on the face of it, elongation of a mass is just another way of saying spatial contraction, which is a part of relativity. But there is a big difference here. Object elongation and spatial contraction are two different beasts. Besides, relativity claims that objects are contracted along with space.

To detect the aether or other phenomena of nature that may exist but are currently outside our perception, we need a new type of measurement. All our current ways of measuring are performed in the moment; that is, a measurement is taken in a single instant, in effect not taken over time. We therefore need a new measurement that is extended in time. By this I do not mean a measurement that is taken repeatedly, over several instants of time; we can do this already; I am not calling for mere repetition of the same measurement; nor do I mean a single measurement that takes repeated samples at set intervals of time—such amounts to mere repetition, which as I have said is not what I'm calling for.

I mean a measurement in which the sampling method itself is spread out over time, where at each instant a fragment of data is gathered, and after a certain period each data fragment will assemble into the whole chunk of data which is the true object of our measurement.

You might think, well, he means some sort of measurement on a geologic time scale, such as a reading on the volcanic activity of a particular geographical region over millions of years. But that is not at all what I mean, for that too is mere repetition, a gathering of a whole chunk of data at single instants of time spread out over millions of years.

What I mean by a new measurement would be a measurement of some sort of phenomena that exists across multiple instants of time and whose manifestation in each of those instants is such that we would not recognize them as being part of the same phenomenon without having a wider temporal perspective, i.e. one not confined to the so-called specious present. A phenomenon which is not observable at the level of the instant, and thus could not be measured by our standard sampling of things at the instant. A phenomenon that disappears at higher "temporal resolution." In effect, we can't see the forest for the trees.

What sort of measurement might we take to bring such phenomena, if they exist, into our focus? What type of instrument could we develop that would, in effect, possess less temporal resolution than all our current systems of measurement, which actually only snag instantaneous snapshots of our surroundings?

As a rough analogy, consider this: when you read a sentence, your mind is measuring each word instantaneously and assembles them into an intelligible whole after all the words are gathered. The

meaning of the sentence doesn't exist until you've gathered all the words. But suppose you lack the language to tie each individually gathered word together? You understand each individual word the instant you gather it, but the next instant the meaning bleeds out of the word, and the only word that makes sense is the one you've currently gathered. In such a case, each word seems to bear no relation to the next one gathered, and so you never think to tie them together once you've gathered enough of them that they would make sense if you *could* string them together. You've gathered all the words, but can't string them together because you lack the scope of the sentence; the resolution of your understanding is at the word level, rather than the sentence level. The overall meaning is an emergent property, that doesn't exist at the level of the words or letters.

That's as clear as I can articulate what I'm thinking. This is a nebulous, elusive sort of concept. To me, at least.

We have two of everything for our senses: two eyes, two ears, etc. This would seem to indicate that we abstract information about our 3-dimensional world using only two identical instruments per sense. Would it follow that to abstract information about a 4-dimensional world, we would possess some sense comprised of three identical instruments? In other words, our two-instrument sense abstracts information about 3-dimensional space. Might we not possess a three-instrument sense to abstract information about our 3-dimensional space over time, i.e. a 4-dimensional space? In effect, each of our senses are like a 2-dimensional plane upon which is projected information about our 3-dimensional space. Perhaps we have a sense which is like a 3-dimensional cube upon which is projected information about our 4-dimensional space (our 3-dimensional space extended in time).

We have our mind at time A, and then our mind at time B. Would this be equivalent to our two eyes, separated by a slight distance in space? Our mind is separated by a slight distance in time, and thus abstracts information about our world in time.

What are we measuring when we measure the speed of light? We are noting the time of a particular type of disturbance in one atom, and then noting the time of a subsequent, similar disturbance in another atom some distance away. We then note the time difference between the two disturbances, and use this to calculate the speed of light. Nothing in between is ever measured, since any such measurement must involve change in the state of matter.

If every observer measures the same speed of light regardless of their state of motion, what does this tell us? It tells us that the speed of light is relative to the state of motion of an atom. Any atom, whether stationary or in motion, that absorbs a photon, behaves as though it *emitted* that photon. This means that light is not a thing separate from an atom. Light is not a *thing*; it is a *property* of an atom.

When I say that black holes, if they exist, will evaporate, I do not mean evaporation in the standard

sense that it is applied to black holes, namely that black holes eventually bleed off all their mass and energy and disappear. When I say that a black hole evaporates, I mean that eventually the change in density of space in the region of the black hole will eventually once again equal the change in density of the entire universe, and the collapsing star that gave birth to the black hole will "pop" back into visibility, i.e. its event horizon will disappear and the rate of time dilation will go back below that of light speed. It will no longer be a black hole, but the collapsed star will still be there, no longer cloaked by the event horizon, no longer a singularity. (I think I wrote this to clarify something I had written in *Temporogravitism and Other Speculation of a Crackpot*, regarding changes in density of the universe governing the rate of passage of time.)

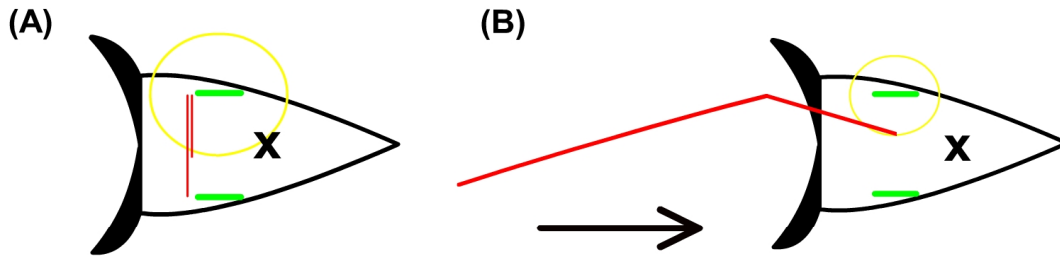
When it comes to relativity, I have a "beat 'em or join 'em" desire. That is, I either want to definitively beat its adherents and decisively overthrow relativity, or I want to join them. I'm tired of existing in the middle ground, not entirely convinced that my own rejection of relativity is wise, nor that acceptance of it is wise.

Why time dilation does not give rise to a classic Doppler effect:

A classic Doppler effect means that if a moving object emitting waves approaches a stationary object, the stationary object will see the waves from the moving object as "scrunched together," and hence will measure a shorter wavelength than if the emitting object were stationary. And when the moving object passes the stationary and recedes, the stationary object will see the waves as "more spread out," measuring a longer wavelength.

Relativity cannot explain the Doppler effect according to the above "classical" effect. So relativity uses time dilation to explain the Doppler effect of light. The stationary object can be regarded as the moving object, while the emitting object can be regarded as at rest, or vice versa. Thus, the observer on the non-emitting object, if relative motion exists between the two, will be time-dilated relative to the emitting object, and thus will calculate a longer wavelength for the light from the emitting object. This is how relativity explains the Doppler effect: time dilation.

But this explanation does not work. Since the waves from the emitting object are not "scrunched up" or "more spread out" depending on whether the relative motion is approaching or receding from the observer, the time dilation explanation does not and cannot take into consideration whether the relative motion is approaching or receding. In the time dilation explanation, the measured wavelength is the same regardless of whether the light source is approaching or receding. So according to relativity, although an observer moving with the light will measure a different wavelength than an observer in motion relative to the light, the measured wavelength will be the same regardless of whether the emitting source is approaching or receding. This must be so, if relativity is to claim the existence of time dilation. But time dilation cannot explain the Doppler effect.



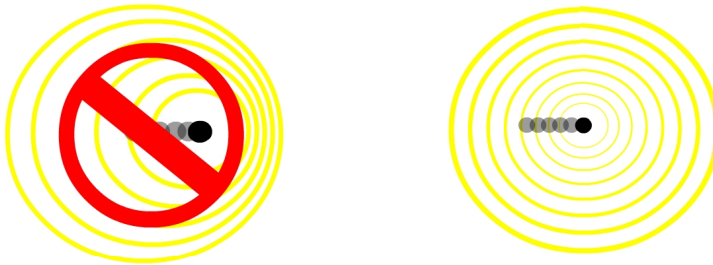
From the view point of an observer inside the rocket, the light beam merely bounces back and forth between the mirrors (A) To an outside observer who is stationary relative to the rocket, the light beam travels a longer path. (B) Einstein reconciles this conflict by saying that the outside observer must conclude that the observer inside the rocket is experiencing "time dilation."

Figure 2



According to classical physics, the Doppler effect arises when successive waves from a moving source become displaced in the direction of motion. This basically means that each successive wave expands from a point which is to the rear of the center of each successive wave. (A) But to keep the speed of light constant for all observers, Einstein claims time is dilated for objects in motion. For relativity's time dilation to work, and for both views in Figure 1 to be equally correct, the situation for light waves must be as in (B) above, rather than (A), which is valid for all waves but light. Thus, for light, the Doppler effect cannot arise in the same manner as classical waves. Thus a non-classical mechanism is needed to explain the Doppler effect in the case of light waves.

Figure 3



Relativity uses time dilation to explain the Doppler effect for light. The above is the correct view. Relativity says that observers in motion relative to one another will simply measure differing wavelengths due to time dilation. It sounds plausible at first glance. But upon examination, it doesn't work. The Doppler effect means that a stationary observer should measure a shorter wavelength/frequency as the emitting source approaches, and a longer wavelength/frequency as the emitting source recedes. But if the above illustration is correct, which it must be for relativity to claim time is dilated, then successive waves are not displaced in the direction of motion. Each successive wave remains centered on the source as the waves expand. Thus, even though time may be dilated, an observer will measure the same wavelength and frequency regardless of whether the source is approaching or receding. Two observers in motion relative to one another will differ in their measured frequencies for the same light, but their measurements will not change depending on the source approaching or receding. Thus time dilation does not explain the Doppler effect for light. Relativity lacks an explanation for the Doppler effect; indeed if we hold Relativity correct then we must conclude that there IS no Doppler effect. But since the effect is an observed fact, Relativity is in direct conflict with observation.

In other words, in the classic Doppler effect, each wave remains centered on where the emitter WAS when the wave was emitted. Thus, if the emitter is in motion, each successive wave will be shifted from the previous wave in the direction of the emitter's motion, giving rise to the situation in Figure 2(A) above. Relativity, by claiming time dilation, cannot say that light works as in Figure 2(A). Light waves must remain centered around where the emitter IS, so if the emitter is in motion, each wave keeps pace with the emitter. This is the only way it can possibly be, in order for time dilation to be true. But if time dilation is true, then there can be no Doppler effect, for although observers in motion relative to the emitter will measure different wavelength/frequencies for the emitted light, these differences will be the same regardless of whether the emitter is approaching or receding. The relativist is also thus denied the possibility of claiming that the Doppler effect of light arises due to a combination of time dilation *and* motion, since for motion to be a component of a Doppler effect for light, the waves must be able to "scrunch together," as in Figure 2(A), which they cannot if time dilation is true. Thus, if relativity is correct, there can be no true Doppler effect for light. Since there obviously is, as seen in nature by the red-shifting and blue-shifting of light, relativity cannot be correct.

Wormholes are often used as an example of how time travel might be achieved. Rather than explain it myself, I'll quote the explanation from science.howstuffworks.com:

"If wormholes could be discovered, it might allow us to travel to the past as well as the future. Here's how it would work: Let's say the mouth of the wormhole is portable. Then person B in the example above,

who traveled at 50 percent of light speed into space for a few hours, could carry one wormhole mouth into space, while the mouth at the opposite end of the wormhole would stay with person A on Earth. The two people would continue to see one another as person B traveled into space. When person B returned to Earth a few hours later, a few years may have passed for person A. Now, when person A looks through the wormhole that traveled into space, that person will see him or herself at a younger age, the age he or she was when person B launched into space. The cool thing about it is that the older person A would be able to step into the past by entering the wormhole, while the younger person B could step into the future.”

The above explanation, at first glance, seems reasonable. But if you give this more thought beyond that first glance, which obviously most scientists and believers in this theory have not, then you see the fallaciousness of it.

Here is the error: when person B returns to Earth with their wormhole, person A's end of the wormhole has aged right along with person B's end. If person A looks into person B's wormhole, all person A will see is himself, exactly as he is at that moment, looking through person B's wormhole. The only way person A would see himself of the past is if his end of the wormhole had not aged. Person A's end of the wormhole is not still in the past; it's in the present, coexistent with both person A and person B. Both ends of the wormhole exist together in the same present. It doesn't matter that person B's end of the wormhole was accelerated and experienced time dilation. Person A's end of the wormhole is not stuck in the past; there is no “temporal gradient” established by wormhole B's time dilation. To suppose that person A's end of the wormhole looks out on a time in person A's own past, while person A, person B, and person B's end of the wormhole, are all together in the present, is ridiculous. Why would person B's wormhole be connected to person A's wormhole in a different time, rather than being connected to person A's wormhole in the present? If such were the case, then person A's present wormhole should likewise lead to person B's wormhole in the future. Why? Where is this break established?

This whole thing about the ends of the wormhole getting out of synch makes no sense. I suppose, in the minds of its proponents, this wormhole theory is somehow similar to the twin paradox of relativity. If so, then the twin paradox should be restated thusly: While twin A stays on Earth, twin B accelerates close to the speed of light, travels around a bit, and so experiences time dilation. Then when twin B returns to Earth, he has thus aged less than twin A. There is no problem this far; any relativist would agree with the preceding statement. But following the logic behind the wormhole time machine, the twin paradox should make this further conclusion: after their reunion, twin B is experiencing, say, 2012 Earth, while twin A is experiencing 2030 Earth, even though the two of them are side by side in the present.

Obviously, that last sentence makes absolutely no sense. Yet this is the same sort of statement proponents of wormhole time travel are making when they say that person A, looking through person B's wormhole, will see himself as he was at the time person B and his end of the wormhole left Earth. It's ludicrous. Just because one end of the wormhole undergoes time dilation relative to the other end, doesn't mean both ends get “out of synch” regarding the time period in which each exists. When the two

ends are reunited, they both exist in the present. One end does not get “left behind” in the past. If one looks through the wormhole, one will not see into the future or the past. One will merely see the same present at either end. Time dilation deals with duration; it does not cause some sort of physical, temporal “break” between mouths when one mouth undergoes time dilation relative to the other.

This is, of course, granting the notion that wormholes actually exist, and also that time dilation actually exists. But I’ll save that debate for another time.

Let’s suppose there are only two objects in the universe, A and B. A is a hollow structure whose walls exactly “fit” the bounds of space. Beyond the walls of A, there is nothing, no space. Hence, A is physically incapable of moving as a whole. B is a sphere, much smaller than A, and located within the hollow interior of A.

The two are in motion relative to one another. But which one is actually in motion? While A is physically incapable of movement, you can suppose B is motionless and A is the one moving. Does this apparent motion of A have any physical reality? How can it, since there is no external space in which A can move? And yet, if there is relative motion between the two, there is a very real sense in which, if we choose B as motionless, A can be said to be in motion.

So if we have a quantity of motion, we can choose which of our two objects, A or B, is “really” in motion. We do this by “placing” the motion upon either A or B. In so doing, we then say that the one which possesses the motion is in motion, and the other we consider stationary.

But while either can thus be said to be in motion simply by choice of upon which object we decide to “place” the motion, is the motion identical in either case? That is, do both objects, when each possesses the motion, also possess equal “types” of motion? Object B, after all, has space in which it is able to move, whereas A possesses no space beyond its bounds in which it can move. There is no space beyond A. So if we place the motion upon it and claim B is stationary, how can it move in the same manner as B? If we define motion as movement through space, clearly A is incapable of motion.

So A is incapable of movement through space, while B is capable of movement through space. This to me seems a profound difference, and seems to give a definitive answer as to which object is “really” in motion. If we “place” the motion upon B, B must have “true” motion, since it is capable of movement through space, while if we “place” the motion upon A, A must have only a “virtual” motion, somehow “masking” the motion of B, since A itself is incapable of movement through space. Any motion in this latter case is thus simply a trick of perspective, an “optical illusion.”

But perhaps we don’t “place” the motion as I’ve described. Perhaps all that exists in the relative motion *between* the two objects. Neither object is *truly* in motion; all that can be said is that the spatial relation *between* them changes over time.

It seems to me that this is the heart of the disagreement between relationists and absolutists. And it seems a conundrum, because both interpretations seem correct. The relationist claims that both motions

are “virtual,” arising from the changing spatial relation between the objects, which is all that really exists; while the absolutist claims one is “true” motion and the other “virtual,” due to the fact that one object has space in which to move and the other object does not. Yet I see no way for either side to justify a claim that a particular interpretation is definitively correct. For *both* interpretations are somehow equally correct, at one and the same time.

What is the way out of this conundrum?

Handwritten note related to the above example:

In my “two objects in universe” example: say dot is equipped with jets so it moves from side to side rapidly. If we say that dot is at rest, then each time one jet fires, the “universe object” moves in the opposite direction. There’s no connection between the two, yet force of jet on dot has effect on box, but none on dot. A mysterious effect. Is this the origin of Newton’s “for every action there is an equal and opposite reaction?” i.e. does that law somehow arise from this example? When we put a force on something in one direction, does the opposite force arise because of this fundamental relativity? Inertia?

The above note actually goes along with a Flash animation I created, in which a small dot is equipped with two jets on opposing sides of the dot, and the dot is located inside a hollow cube that has the exact shape of the universe, with no space beyond, so the box has no space in which to move. When one jet on the dot is inactive, the other is firing, pushing it in the opposite direction, and vice versa. If the dot is taken to be stationary, then each time a jet fires, it seems to have an effect on the box, rather than on the dot.

What all this proves is that things do not actually move in space as we see it. Our entire space is replicated in each instant of time, and objects in motion are shifted in position each instant’s space. In every instant of time, we are thus in a new section of space, and if we’ve apparently changed position in the same space, we’ve actually only changed position in time. We’ve never actually moved at all, in space.

So A in the above example needs no room in which to move. There may be no space beyond its boundaries for it to move, but it in fact needs to such space, since it’s not shifting position in space, nor is B. There is *no motion in space*, virtual or actual.

Let’s look at velocity in physics. Velocity is defined as distance traveled over time, $v = d/t$. But what is distance traveled? It is another way of saying *motion*. And basically motion is relocation of an object between one instant of time and the next. This relocation can occur once, or it can be continuous. Motion is relocation in space, which takes a certain amount of time. In other words, velocity as distance traveled over time, in its most basic definition, should be ($v = \text{space} + \text{time} / t$). Velocity is a certain amount of motion, in a certain amount of time. It is something that takes time, in a certain amount of time. To put it another way, classical physics takes velocity to be merely space over time, and neglects the temporal

portion of the “distance traveled” part of the equation. Time actually enters the equation twice, since motion without time is impossible. So velocity is actually: $v = \text{distance traveled} / \text{time}$, or $v = \text{motion} / \text{time}$, or $v = \text{space} + \text{time} / \text{time}$. The above three equations say the same thing. But the classical view of $v = d / t$ is an error, in that it neglects a time factor in the numerator. Thus every physics equation based on velocity must be in error.

I know, this sounds crazy at first. “Scott,” you say, “you’re making an issue out of something that is simple. Velocity is distance over time, nothing more. Velocity is basic. You’re reading too much into this.” But it’s really not so crazy, if you think about it. When we state something’s velocity, we mean that it has moved from here to there and has taken a certain amount of time to do so. Look at what I just wrote: *It has moved from here to there—motion*. Motion requires time; if there is no time, there is no motion. *It has moved from here to there **and** has taken a certain amount of time to do so*—in other words, two factors: *space + time **and** time*. So: $\text{velocity} = (\text{distance} + \text{time}) / \text{time}$. It’s really not so crazy. Distance / time does not give rise to motion; if such were the case, we would say that $\text{velocity} = \text{motion}$. Distance over time gives a static description of an object, while (distance + time) over time gives us an object in motion, it gives us true velocity, it is kinetic. Velocity as mere distance over time is static.

The classic notion of velocity must be stated thusly: an object is located at spatial position x , and after a certain temporal interval, it is located at position y . Is this a satisfactory definition of classical velocity? Is my definition of velocity (that an object moves from x to y in a certain amount of time) an unnecessary complication of the classical definition? Or have I stumbled across some heretofore unrecognized truth?

If velocity were equal to distance over time alone, then velocity would be a constant, that is, every object in motion would have the same velocity for any specific time measurement. In other words, a specific interval of time would equal a specific length of space. Velocity would thus equal motion, and would be independent of any specific object.

Velocity does not equal motion. Rather, distance over time equals motion, and velocity is a quantity of motion acting over a certain a interval of time.

Distance over time is merely motion. Velocity as a measure of the amount of motion does not work. But velocity as a measure of the amount of motion in an interval of time *does* work. Classical velocity says, “At *this* particular time, something was *here*, and later, at *this* particular time, is was *here*.” It’s a very static statement. But my velocity says, “Something moved *this* fast, in *this* amount of time.” It’s a more dynamic description.

I guess the best way to say it is that my description of velocity adds something to the classical, it modifies it, takes the classical velocity a step away from itself. Classical velocity does not define what it intended to define. It equated velocity with motion alone, when in actuality there is a further component of velocity. The classical definition did not go far enough.

Let me elaborate upon the above idea. Let’s say I’m in a park, and I’ve brought a chair with me. I don’t

know, maybe I've come out to sit and watch the birds or something. I'm currently standing next to the chair. I pick the chair up and move it a distance of 10 feet and set it back down. Now, who would claim that the chair has a velocity, in the classical sense? I suppose a physicist would say that the chair *had* a velocity, during the second or so that it took me to move it; it had a velocity of ten feet per second. But when we talk about velocity, don't we actually mean something that an object presently possesses? Of what use is it that something *had* a velocity? For example, my chair may have *had* a velocity, but when we talk about its velocity, don't we actually refer to its current state? In which case it has no velocity, since it is currently sitting stationary on the ground.

Now let's suppose that a man jogs past me, and continues jogging. The man unarguably *has* a velocity, in the past, currently, and, since he shows no sign of preparing to stop jogging, he will have a velocity in the foreseeable future. His velocity is a continuing state. Suppose I measured his velocity, in the classical way. I choose two reference points, perhaps two trees, and clock the time it takes him to travel between these two points. I will then report that he traveled x distance in x seconds, and say that his velocity therefore equals x feet per second. In so doing, I have in effect "frozen" him in time and relegated him to the status of my chair: I have measured a velocity that the man *had*. I have taken a slice of his path and calculated how long it took him to move from the beginning of that slice to the end of that slice. But in order to measure that slice, in order to consider it, I've "lopped it off" from his present path, I've isolated it, and so it no longer applies to his current state. It is useless information. This slice of his path is now equivalent to the path across which I moved my chair: they don't apply to the current state of the object. My chair may have *had* velocity along that path for one second, but it has no longer.

By the above I hope I've illustrated that in the classical definition of velocity, $v=d/t$, a stationary object and an object in motion are equivalent. It is a static definition, that tells us nothing about the current state of the object being measured. There is no *motion* involved in the description, since motion is a *continuous process* occurring over time. True velocity should be defined as a quantity of motion over time. And since motion necessarily involves time, time must enter into velocity at two points, rather than the one in classical physics.

I had a dream about flying last night, as I often do. I leap up into the air, and instead of falling back downward, I fall gently upward until I reach a certain level, where I remain, and "drift" along above the ground in whichever direction I choose. Last night, though, for the first time, I started a dialogue with some professor on how I could fly. We decided my flight was due to antigravity. The professor contended that if it was antigravity, then when I "turned it on" by whatever mechanism I do, I should accelerate upward and "crash" against the "float" level. Like when you release something from a height and it crashes against the ground. If my flight was due to antigravity, then I should do what gravity does, but in the opposite direction. Ergo, when "released" from the ground, I should accelerate upward. The professor wondered why I should fall gently upward as I did, against expectations.

This got me thinking more about antigravity. If gravity begins in earnest at a certain circumference in space around a mass, then increases toward the point center, would antigravity do the opposite, decreasing as one moves away from the point center of the mass, finally practically ebbing when one reaches the certain circumference, so that at this certain circumference, gravity and antigravity are in balance and one would essentially drift freely of either influence? I mean, I know the reach of gravity supposedly extends throughout the universe, so that if I were removed far across the universe from the Earth, I should still feel its pull, however weakly. But for all practical purposes, there comes a circumference in the space around the attracting mass where gravity becomes essentially negligible.

If antigravity and gravity exist in balance, does antigravity increase toward the center of the attracting mass, like gravity, and decrease as one moves from the center of the mass? Or is the reverse true, so that antigravity decreases as one moves toward the center, and increases as one moves away, so that at great distances the force of antigravity would be infinite? It seems that the former should be the case, and that antigravity increases along with gravity as one moves toward the center, and decreases as one moves away. But if such were the case, why do the two forces not cancel each other out, and we feel no gravity?

Also: does gravity reside within the attracted object, so that it “swells” within the attracted object as it approaches the attractive object? Or does it reside within the attractive object? And the same question applies to antigravity. Or perhaps gravity resides within the attractive object, and antigravity within the attracted, so that as the attractive object exerts its gravitational influence on the attracted object, antigravity “swells” within the attracted object in equal proportion. Of course I am hereby rejecting the notion that gravity is due to curvature of spacetime, as relativity asserts.

And how does inertia fit into this? Is it a “margin” effect, a force that exists as a result of the interplay between gravity and antigravity? How could it be, since inertia exists in open space, far from the significant influence of other bodies?

If both forces are equally strong, and increase in tandem, why do we not feel both forces? Why do we experience only gravity? Perhaps this means one decreases as the other increases.

If they increase in tandem, how might we disentangle them, so that we could choose which force was expressing itself? And if the increase in opposition, how might we inspire the one decreasing at any given moment to express itself in the presence of the increasing, expressive force? I.e. how might we produce antigravity in a strong gravitational/weak antigravitational field, and how might we produce gravity in a weak gravitational/strong antigravitational field?

Rather than imagine light as a wave or a particle traveling at ultra-high velocity, let’s imagine it another way. Say we have a collection of boats all in uniform motion relative to one another. We have a man named Bill who has a very strange property. He is in constant motion and can be found walking on the deck of a different boat at any given time, and is able to transfer from boat to boat without any hindrance or effort. His strange property is this: no matter the velocity of the boat on whose deck he is

currently walking, his speed relative to that boat, as measured by an occupant of that particular boat, is always 100 miles per hour. If Bill were to step onto another boat traveling at $\frac{1}{2}$ the velocity, the occupants of this new boat would also measure Bill's velocity relative to their boat to be 100 miles per hour. And strangely enough, the occupants of the boat Bill just left, upon measuring Bill's velocity, still measure it to be 100 miles per hour relative to them. Bill, in stepping from boat to boat, changes absolutely nothing about himself; the boats differ in their velocities, yet no effort is required of Bill to change anything about himself in order to match velocities with any particular boat before stepping aboard it. Yet relative to every boat, he is found to be traveling at 100 miles per hour.

It is not the same situation for every other occupant of the boat. Suppose a man named Jerry is standing at the rail on a boat traveling at 50 miles an hour relative to another boat which is traveling at 10 miles per hour. If the two boats were traveling in the same direction and Jerry were to jump onto the other boat, he would suddenly find himself shooting at 40 miles per hour across the deck of the new boat. The slower boat's occupants would measure Jerry's speed as 40 miles per hour, while the faster boat would measure his velocity at 0 miles per hour. The occupants of the two boats would disagree as to Jerry's speed. If Jerry were to hop from boat to boat, his speed would vary. Quite a difference from Bill's experience, where everyone involved would measure Bill traveling at 100 miles per hour, regardless of the speed of either boat.

This is just something to think about. I'm not making any crackpot claims here. I just thought this illustration might be a little more thought provoking, or easier to digest, or whatever, than thinking about light as a wave or a particle. This one is a little easier to relate to.

The following pages consist of transcripts of handwritten notes. I often write these notes to myself after I've gone to bed and something occurs to me. I get up and quickly jot it down, since the computer has already been turned off and I can't type. I've numbered them, and the text under a given number was written on the same page, so the ideas are probably connected, since I use a new sheet of paper each night. Also, there is no significance to the sequence in which they're numbered; the numbers do not indicate the order of writing; lower numbers were not necessarily written earlier than higher numbers; they're simply numbered in the order in which I pulled them off the stack and typed them; and the stack has been shuffled numerous times.

LATER NOTE: These aren't just transcripts of handwritten notes. Eventually I got into the habit of writing each of my notes in separate word processor files, and then later compiling them into this notebook at regular intervals and simply assigning them the next number. So the following consists not only of transcripts of handwritten notes, but also regular notes similar to the preceding.

1.

We need to distinguish between two types/sequences of events—actual and apparent.

For one thing, we're not determining whether each strike was simultaneous, we're determining whether the light from the strike reached the eyes of the observer simultaneously. There is a big difference. Relativity mistakenly believes that the two events are synonymous.

In the lightning example, the supposed non-simultaneity is an illusion owing to the rocket's motion relative to where the lightning struck. Extending that apparent non-simultaneity to an actual, physical non-simultaneity, such as the garage doors opening and closing simultaneously or non-simultaneously depending on reference frame (another example used to illustrate relativity), is a *huge* mistake. It's utter foolishness. This is exactly the crux of my disagreement with relativity.

In one example, you're moving relative to a *point in space*—where the lightning struck—while in the other example, you're moving relative to a *process in time*—the garage doors opening and closing.

2.

To find new uses for or ways to harness gravity, examine EM duality. Light and magnetism look like separate things, but magnetism can produce electric flow which can be used to make/discharge lightning.

Maybe make gravity flow through wires—turn it on and off.

Electricity is found under special conditions. So is gravity—near huge masses.

Maybe gravity can be converted to something else and then back—like magnetism can produce electricity, which can travel hundreds of miles and produce magnetism—Gravity produces something else, is conducted hundreds of miles and produces gravity again.

Gravity—time?

Gravity—_____?

EM—Gravity—_____?

Look for unexplained, common phenomena around us that might be somehow connected to gravity without seeming to at first glance. Maybe even some sort of electric or magnetic phenomena, indicating a connection.

In other words, there's GOT to be an easy, as yet undiscovered way to manipulate gravity. After all, electricity is powerful, but once he discovered the trick, a caveman could harness EM—without advanced technology. There must be a similar ease of harnessing gravity or time—without supercolliders and advanced tech. The common man could do it.

Earth and other large masses broadcast G-waves. Something that broadcasts a gravity wave that destructively interferes with another G-wave—canceling gravity.

3.

If consciousness itself is an electromagnetic phenomenon, how does that factor into observation of light? If time's flow, duration, itself is limited to consciousness...

Consciousness is an EM field, and if we accelerate it...

Young's double slit—when a single photon is fired with much time between firings—no interference pattern.

It is my contention that if you allow enough time between single photons, the interference pattern won't build up.

Little time between = interference pattern. Does this somehow demonstrate a relation between...Is

there a relation to time dilation and light here? Also, a relation between light and observation?

Observation condenses the light to a point, but it immediately spreads out again into a wave.

4.

If we had no sight, how might we detect light, experience it? And what might we conclude differently about it? How would we measure its speed?

How much of our knowledge of light *depends on or is derived from* our sense of sight?

If space is bent or warped, doesn't that mean something else has to give way for the warping? Maybe time is somehow bent—warped space pushes against the time dimension and warps time.

5.

Time = light

Look at my “time force” animation.

Everyone measures same speed of light, everyone feels same amount of “time-force.”

Light speed is not related to distance covered over time (velocity), but rather it's related to speed with which time passes.

Light is not moving → → → through space, it's moving → → → through time.

A ← 186,000 miles → B

Flash light hits

Time between A and B is always 1 second, regardless of my state of motion.

----- ← light ray

light is here, here, here—that is indisputable. The only difference is *when* each observer measures it here.

One says it's there for 1 second, another says for 2 seconds, depending on....

6.

Michelson-Morley is a combo of the light clock and the man shining light from center of rocket. Think it through and find reason for null result.

7.

Newtonian gravitational equations describe only relative relations between masses, not absolute relations. Reform them into absolute terms.

In Galilean relativity, we should be able to “jam a stick” through the hull of the ship and “hit absolute ground,” dragging the ship to a halt. What is the nature of this “absolute ground?”

8.

Aether as a state of matter.

Aether → solid → liquid → gas → plasma

A new property of matter? Some temporal property?

If it's not a solid, it's not a liquid, yet it permeates the universe—what is it?

If matter absorbs aether, where does absorbed aether “go,” or how does it affect matter?

A “temporal” mass—aether is where time enters into space.

Aether is not made of particles, particles are made of aether.

Aether has no mass; it is “before” mass, it is the ingredient of mass.

Anti-gravity as an “aether inversion,” an inversion of density.

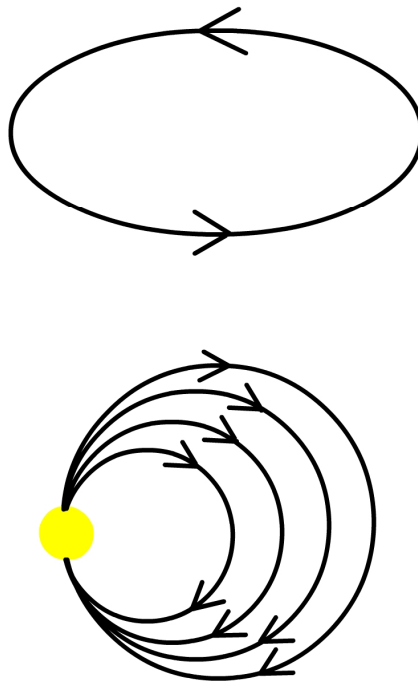
9.

Design a new Michelson-Morley that eliminates the round-trip negation effect of the original—maybe one that sends one beam downstream, the other upstream, without having them return in a way that negates the effect of any aether wind.

One forward, one to the side, each strikes a calibrated sensor. Sensors are then superimposed on each other to look for a shift that would be there if they were actually recombined—i.e. no return trip.

Maybe somehow use cell phones that can receive a direct signal and record exact time of reception at specific points on globe.

Maybe light is an absorption, not an emission, or maybe both at the same time.



10.

To make my assertions/theory stand out, I need to formulate it as an alternative to relativity, and use it to make astonishing, verifiable prediction/experiment that is completely contradictory to relativity, or “goes places” that relativity can’t.

If spacetime is curved and gravity is due to the earth rising up to the object, i.e. rather than a dropped object falling, the object is actually stationary and the ground rises up to meet it—if this is true, what about two people on opposite sides of the planet who drop something at same time? How can the earth rise up to meet both? Wouldn’t that mean the earth is expanding with time, rather than “rising” or curving through spacetime?

11.

Are magnets magnetic due to EM waves passing by? Will a magnet still be magnetic in absence of EM waves? Is there an “EM blocker” to test this? Magnetic due to magnet “resonating” with light?

Are magnets weaker at night?

Try to accelerate mass upward against gravity, it resists. Gravity as “reverse inertia” or “inertia displacement.”

In an EM wave—no electrons are involved, so how does an electric charge build up? Electric charge must exist independent of electrons. Also, why does a compass not “go crazy” as light passes by, in response to the magnetic part of an EM wave? Is it because the wave passes by too fast for a compass to react?

12.

In a ship 186,000 miles wide traveling at uniform velocity: how far does light “drift down” when it strikes opposite wall 1 second later?

All this lightning strike business tells us is that we can’t believe our own eyes when judging simultaneity. The observer on the embankment is no more justified in claiming the strikes are simultaneous, based solely on his eyes, than is the observer on the train in claiming that the strikes are non-simultaneous.

What do we mean when we say, “The observer sees the light hit the walls?” We mean that the light reflected from event A (light hitting forward wall) and event B (light hitting rear wall) has arrived at eyes of observer (events C and D). Relativity is confusing event C with event D with events A and B, saying that if one observer sees the light hit simultaneously (meaning that event C and D are simultaneous), while another non-simultaneously, then simultaneity is relative. Relativity goes too far, claiming that if event C and D happen simultaneously, I must conclude A and B did as well.

If we’re using light signals to determine simultaneity, as in Relativity, then nothing can be said about whether *events* A and B were in fact simultaneous; all that can be said is that the light from each event *converged* upon me either simultaneously or non-simultaneously. When one says he *sees* an event, what he means is that the light from the event has arrived at his eyes. There are two separate events: the event itself, and the light from the event arriving at the eyes of an observer. Relativity makes no distinction between the two events; it considers them one event, which is erroneous.

13.

Electricity, fire, gravity, were things already around us when “discovered.” What is there in nature that’s all around us yet still waiting to be “discovered?” Aether?

Look for examples, indicators of undiscovered phenomena—antigravity—things pointing the way to producing it.

14.

As a starting point, state what each theory’s “measurement problem” is.

Maybe light has no velocity until we measure it, much like in quantum mechanics, it is both a particle and a wave, having no position or speed until we measure it, etc.

In other words, relativity has a measurement problem, just like quantum mechanics. Einstein merely pointed out the measurement problem (namely that all reference frames measure the same speed for light).

Maybe the underlying cause is similar and the solution will unite both.

Play the two problems off each other, compare them for similarities, and try to tease out a solution.

15.

The light reaches his eyes at the same time, from the viewpoint of both frames. The conclusions observers in each frame draws are different; however, one conclusion is obviously in error, though it's an understandable error.

“On the non-relativity of simultaneity.” Don't rant at relativity. Simply describe thought experiment of ship—midpoint light—observers—what each sees—then casually mention how relativity stops short by considering two different events as same. Or just don't mention Einstein/relativity at all. Just try to be as non-combative, non-relativity-hostile as possible.

16.

Wouldn't it take a large amount of energy to make something with a long wavelength? A long wavelength is a distortion of the aether over a large area. Wouldn't that take a huge burst of energy? I.e. the traditional view is that high frequency/short wavelength = high energy, and low frequency/long wavelength = low energy (heat). What if reverse is true in case of electromagnetic waves?

It's just a question of a large amount of energy in a short time, as opposed to a smaller amount of energy expended over a larger amount of time.

To make a long wave in a rope, I must give a violent, large single jerk of my hand, whereas to make a lot of little waves I must give rapid, minor jiggles of my hand.

A long wavelength must be the equivalent of a violent, large atomic jerk of the aether.

17.

When the electron travels along a wire, it has definite position—not a wave—so its wave is time-shifted as in the double-slit experiment—wave portion is magnetic—double slit experiment should have a momentary magnetic spike after measurement of photon, which is the displacement of the wave in time.

An electron-electromagnetic wave is a phenomenon—it is *in time*—it is not a thing in space. i.e. an electron is a phase of an event *in time*. It is not an actual thing.

What about magnetism in the absence of a moving electron, i.e. a magnet?

18.

In 4-space, a process becomes as a thing in 3-space, i.e. a process in 3-space is a concrete *thing*, an object, in 4-space.

19.

What effect/connection does age have to gravity? Things that have been around a long time are the most gravitationally attractive.

Time/gravity

Things that are long-lived in 4-space?

Gravity “slows” time

Gravity is not due to curved space, but to long-lived matter.

been around longer = “slower” time, less duration.

Covers a lot of temporal distance, as does motion

20.

It means light does not recognize the passage of time—whether the wave builds up all at once or particle by particle over time—light doesn’t see a difference in either process.

21.

Light—effect of scale on our perception of—for an atomic-sized being, their perception of the frequency and wavelength of a certain lightwave would differ from our perception of the same wave.

22.

Electricity and magnetism are separate things. How are they combined to make EM waves?

23.

Test “magnet weaker at night” by finding a weight which a particular magnet is on borderline of being able to lift against gravity. Maybe with a fraction more strength, a little “push,” it could lift the weight. Then shine powerful light on magnet and try lifting the weight.

Effect of light on strength of magnets—if true, could be used to make a motor/generator powered by light pulses—and I DON'T mean traditional solar power.

Stop trying to come up with a theory. Instead, try to come up with new physical phenomena in the universe, that is, uncover things we've missed but are there even so. Do this by asking, “What would happen if we did THIS with magnetism, or THIS with electricity?” Questions such as, “Is magnetism weaker at night?” Questions that can be answered experimentally.

Study motion. Motion is the key to time.

24.

What about a pool of water on board a moving cruise ship compared to the ocean, assuming they're of the same composition? What if the pool is self-contained on ship and what if it is merely an opening to the larger ocean? How does both types of pool effect measured speed of waves in pool as compared to waves in the ocean.

What properties would we observe if we ignored the water and just focused on waves, pretending the water itself doesn't exist or is irrelevant?

Observer (nonsimultaneous/simultaneous) = Passenger (simultaneous/nonsimultaneous)

If light is a wave in something, what produces the wave?

Think about man at midpoint of rocket flipping switch, turning on light—i.e. electric pulses traveling fore and aft along a wire and activating lamps at fore and aft of ship—equivalent to flashes of lightning.

25.

No scientist would seriously conclude that, if Earth transmits a signal with an encoded time stamp, and five hundred years from now, the signal is received on a far-off planet, then the other planet must conclude that that's an accurate reading of the current time on Earth. And yet that's exactly what they must conclude, according to relativity.

Relativity's equations don't predict anything. They're purposely designed to describe phenomena, after the fact.

26.

We need a new understanding of the nature of light itself. Maybe electricity and magnetism aren't as similar as thought, maybe their dual nature is responsible for quantum mechanics.

The electron is demonstrably solid—magnetism isn't—how could they combine to form a wave that propagates through space?

27.

Observation breaks light into particles—a prism separates it into waves—is observation somehow a form of prism?

28.

What if light has a third property? Generally regarded as particle/wave duality, but what if that apparent duality is actually the result of a triple property?

Electro/magnetic/gravitic?

29.

Time is only dilated supposedly due to an absence of aether—pool on boat experiment—waves travel at same speed as ocean waves.

Pool on ship—compare velocity of wave in enclosed pool with velocity of wave in the ocean—is there a difference due to addition of velocities?

30.

A flame is not a thing, it is a process, a phenomenon, that emerges over time.

31.

Midpoint—Doppler going out, Doppler coming back. Lightning strike illustration shows this reflection is merely the reverse. Guy turning on light sees both hitting walls simultaneously due to “inverse Doppler” going out/coming back.

32.

3D object. What additional data does my brain register in order to perceive depth? It surely can't be a mental, perception, because 2D picture has identical look, yet my brain doesn't transform it into 3D. So what additional data is my brain registering to differentiate between a 2D and a 3D object?

33.

Go back to the very beginning—a single particle existing—in space? In time? What can it do? Move? How can it move, if there are no other particles to impart a force to it? Or to gauge its motion against? If space is only the relative positioning of multiple particles, is a single particle “in space”?

Do this thought experiment, gradually adding features, like time, other particles, etc. But first examine single particle case, exploring its relationship to time, space and force.

34.

In the case of geocentrism, you have motion of Earth vs. a system, rather than Earth vs. another object, i.e. one object vs. multitude of objects, rather than one object vs. one other object. Maybe this difference is significant, pointing way to something deeper.

Also, regarding centrifugal forces generated by universe rotating around Earth—if an object is utterly incapable of movement, can it experience forces acting upon it? Doesn't force depend upon possibility of motion? $F = m(a)$? Maybe centrifugal forces acting upon Earth are irrelevant due to Earth's utter immobility.

35.

Magnetic energy.

Light-stimulated magnetic induction (magnets are weaker in the absence of light or EM waves in general).

Electricity is a flow of electrons. An EM wave is a propagation of electric energy in combination with magnetic energy. The electric energy “flows” down a gradient set up by the magnetic energy, which is a reduction or absence of something in the ether that “holds” electric energy or electrons “in place.” The electric energy flows into the temporarily magnetic area of space, and the area the electric energy just vacated becomes magnetic. It’s sort of like a “gate” opening and closing behind and in front of the electric energy, like a series of “locks” taking a ship across the land; like the Panama Canal, only the ship is electric energy.

36.

Non-magnetized metal conducts, or extends, a magnetic field. Proof: I placed a compass at a fixed point. I then placed a magnet at a distance such that the magnet has no visible effect on the compass. I then placed a rectangular metallic case between the magnet and the compass. The compass immediately oriented itself toward the magnet. When I removed the metallic case, the magnet returned to its previous position. The metallic case itself was not the source of the effect on the compass, since if the magnet is removed, the compass returns to its normal position (i.e. in the absence of the magnet the metallic case has no effect on the compass). In the absence of the metallic case, the magnet must be moved much closer to the magnet to achieve the same displacement as that which is achieved in the presence of the metallic case. So magnetism can be conducted, or extended, or amplified, whatever term you want to use.

The above may or may not be an effect that is already known. I haven’t checked into it yet. But I think it’s likely that it’s already known; I would be surprised if it wasn’t, since it seems to me such an easily observed effect would have been noticed long ago. I’m mentioning it here only because I myself just noticed it, and think it might be food for thought in the future.

37.

Gravity is like a super strong magnet that attracts everything, not just metal. Might magnetism be a special case of gravity? Might there be some things that gravity does not attract, in the same way that magnets attract only metal, excluding everything else? Might there be something that gravity excludes?

But size-wise, magnetism is much stronger than gravity. A large aggregate of earth is gravitationally attractive, but if you break off a piece the size of, say, a fingernail, the piece of earth would not exert any significant gravitational pull. But a magnet of the same fingernail size exhibits a very strong magnetic pull. Why the difference? How could gravity be related to magnetism? Is gravity the “inverse” of magnetism? Is inertia the “inverse” of gravity?

38.

A method to test whether the ability to be gravitationally attractive depends on the age of the gravitational source: choose a planet that has been around for billions of years, say, the Earth, and then construct an artificial sphere of the same size and density as the Earth. If the two exhibit the same gravitational pull, then age does not matter in gravitational attraction. But if the artificial sphere has a lesser, or absence of, gravitational pull, then it would be reasonable to conclude that age is a factor in gravity.

39.

Is there a “limit” to magnetism, can magnetism be “used up”?

For example, if we have a magnet, and one by one we place pieces of metal near it: as we add each piece of metal, do the pieces already present “deplete” the amount of attraction felt by the piece we are adding? Do the pieces already present “siphon off” the magnetism of the magnet, so that there will eventually come a point when a piece of metal brought toward the magnet feels no magnetic pull at all?

40.

Is there a limit to the size a magnet can be? In other words, is a magnet the size of Earth possible? I mean a “pure” magnet, such as if we were to take a commercially available, small magnet and enlarge it to planetary size. Is such a “pure” magnet possible, or does there come a point at which gravity would overwhelm the magnetism? In other words, if such a giant magnet were possible, would the gravity generated due to its size overwhelm the magnetism, so that the magnetism becomes a secondary consideration, superceded by gravity?

41.

You'll notice I keep treating gravity as an actual force, rather than a curvature of spacetime. This is because I think it's preposterous to think that space, spacetime, whatever, could be curved. Curved into what dimension? And don't give me some nonsense about mathematically proven dimensions, or

intrinsic curvature, or some such bullshit. Point to me and say where, into what, 3-dimensional space can physically curve? Gravity is not curvature. It's a force, in the same sense that magnetism is a force.

42.

Age probably is not a factor in gravity. Small rocks, even boulders, are very old, some almost as old as Earth itself, yet they do not exhibit any significant gravity. So it would appear that size alone is the factor in gravity; trying to add in age is merely a complication. A large concentration of mass would appear to be the obvious source of gravity, not age. By bringing up the possibility of age, I was exploring a possible new way to connect time and gravity.

43.

Food for thought in an interesting quote from the television show *Stargate*, episode titled "Moebius": "...the effects of antigravity on electromagnetism." Or how about the effects of electromagnetism on antigravity.

44.

Nearly every science fiction television show these days has an episode where the main characters travel back in time and are scared of doing anything because, "Oh my God, we might do something and change our own timeline. Then we return to our own time, everything could be different." They don't want their actions to "corrupt" their timeline.

This is foolish. I do not believe that time can be changed in such a manner. Time does not pass with things happening a certain way, then if someone travels back and does something, from that point on things will happen a different way. As if each of us carries the "master playhead" of time within us, and if we were to move backward in time, all of time will roll back with us, everything will "unhappen," until we reach a certain point in our own past, which becomes the one true present because of our presence in it, having brought the "master playhead" with us. So now we can interfere with what happened, and all future events will happen a different way because of our interference. It's such a foolish notion, that the present moment depends upon my presence within it. Am I really solipsistic enough to think that the present moment depends upon my presence within it, and if I were suddenly removed from the present moment, it would cease to be present?

What irritates me about these television shows is that they all portray time the same way. They're training everyone, every sci-fi geek in the world, to walk around spouting rote nonsense about how when you time travel, you have to be careful not to do anything that might change the timeline, blah blah blah.

It becomes a belief. And some of these people are young, and they will go to college, take physics courses, and grow into scientists who have been trained to believe that if you time travel, you have to be careful not to do anything that might change the timeline. And they've never thought to examine the assumptions about the nature of time that go along with their belief. They've accepted it as fact without examining it, without digging beneath the surface and looking at the underlying assumptions.

It's the same sort of thing in a physics education. The students listen to the professor presenting Einstein to them, without presenting the underlying assumptions that go with Einstein. And so the students accept relativity without digging beneath the surface. No one questions, no one thinks for themselves. Their knowledge "floats on the surface." They've learned something and accepted it as true based merely on the authority of the source, rather than thoughtfully examining what has been presented to them and making a conscious decision to accept or reject it based upon their own reasoning ability.

No one thinks for themselves anymore. They learn someone else's truth and then run with it and never look back. I'm not saying that I have the real truth, and that no one has really thought things through unless they agree with my truth. I've just observed the way people behave, and I don't believe most people give more than cursory thought to anything. As wrong as my own scientific beliefs may or may not be, no one can claim that I haven't given them a great deal of thought. No thought that occurs to me is too wild for me to explore, no crackpot idea put before me is too crazy to listen to. And I've read several dozen popular science books on relativity and quantum mechanics. I sit and think about relativity and quantum mechanics every day, much like Stephen Hawking is said to sit in his wheelchair and ponder the secrets of the universe. This very book is evidence that I think about these subjects constantly. I had a college course in physics sixteen years ago, and now I'm a physics major at ASU. So no one can correctly claim that I have not dug beneath the surface in my quest for knowledge. My truth is not "floating on the surface."

Back to time travel. I believe that if, three days from now, I were to suddenly discover a way to travel back in time and did so, there would be no danger of my "changing the past and altering the timeline," because, even before I invented the time machine, the facts that I *would* invent it and *had* traveled back in time and done whatever I did were already a part of the timeline. I was already an active part of the past *before* I invented the time machine. If I travel back in time, I couldn't change things, because I was already present at those past events before I traveled backward. Any event at any point in time *has* happened, *will* happen, or *is happening*, regardless of the viewpoint of any one person. Things cannot be changed; an event *cannot* happen differently than it *is* happening, than it *did* happen, or than it *will* happen. End of story.

Of course, the above discussion is not taking into account my notion of a second dimension of time, where each moment of time exists eternally and there is a "second clock" ticking away the moments in each moment of "sideways" time. Changing things is possible in that case, but that's for another discussion. The above discussion was for the "standard," one dimensional view of time.

45.

One of the main reasons I disagree with relativity: in the matter of simultaneity, I don't believe it matters which flash I see first, or which flash someone else sees first. Who SAW what and in what order they SAW it has no effect on the actual, physical timing of what they saw. The light from an event is not the same as the actual event. The light from an event is merely a representation of the event AFTER THE FACT of the event. So who cares whether I saw this flash first or that flash first? My sight has no effect on temporal order. All this means is that unless I'm right at the location of an event, rather than being a great distance away, I cannot say which event happened first. But my subjective uncertainty does not mean there is no absolute certainty regarding the temporal order of events. However, relativity says that my subjective uncertainty reflects an actual uncertainty in nature, which is ridiculous. Because of this, and a few other reasons, I reject relativity.

The relativist would say, "Scott, Scott, you are once again showing that you don't understand relativity. Relativity isn't concerned with the observations of one person. It's concerned with the comparison of two observers in motion relative to one another, observing the same event. Because of their relative motion, and the constancy of the speed of light, they will disagree on the temporal order of the same events."

But my objection still stands. It doesn't matter whether we're concerned with one person, or two people in motion relative to one another. We'd only be comparing when each SAW the same event. We're still dealing with when the light from the event or events reached their eyes. And the order in which the light reaches their eyes does not affect the order or the timing of the event. SEEING an event and the event itself are two separate events. So whether we're dealing with one person or comparing two persons, the actual timing of the event does not depend upon when each SAW the same event.

46.

One thing I hope I have made clear (and if I have, I'm going to reiterate it anyway, because by now you probably will have noticed that I like to say the same thing more than once) is that I'm not disputing the mathematical correctness of relativity. I've no doubt that it is mathematically correct and mathematically consistent. What I'm disputing is that that mathematical correctness and consistency does not translate into a physical reality. It's like, say, I'm holding five apples, and a mathematician comes along and tells me he's going to take seven apples away from me. He then asks me how many I'll have left. I'll tell him zero, and he'll tell me I'm incorrect, I'll have -2 apples. Mathematically, he is absolutely correct. But if I only have five apples, he obviously cannot take seven away, and there is obviously no such thing as -2 apples for me to possess. So even though he is mathematically correct and

consistent, his taking away seven apples from my five, leaving me in possession of -2 apples, has no possibility in physical reality. It's the same with relativity. If time, in reality, is absolute, and I believe logically that it is, then it doesn't matter if you have a mathematically correct and consistent theory that says time is relative. Physical reality trumps mathematical reality. You can even use your theory to correctly describe and predict physical events and phenomena, but that description will necessarily apply only in a limited sense, and it will not be a correct description of reality, because the fact of the underlying physical reality does not change.

47.

In my notion of a limit to a planet's gravitational pull, a limit to its ability to be gravitationally attractive to other masses: we should call this property "gravitational capacity." In referring to it, we should ask something like, "Has this planet reached the limit of its gravitational capacity?"

Likewise, we should use the term magnetic capacity. "Has this magnet reached the limit of its magnetic capacity?"

48.

Relativity says there is no absolute space; there are only positions of objects relative to other objects. The intervening space between them does not exist, or it is irrelevant.

If I try to "stick a pin" to a particular spot in space, to what would I be sticking it? THAT would be space, and it would necessarily be absolute. But WHAT is space? Would it even be possible to "pin" space? Whatever I stuck the pin into, could not be a regular object as we know objects. It would have to be a sort of "ultimate object," of which all other objects are made, or a "container" of objects. "...of which all other objects are made"—I do not mean an atom—an atom is an object as we normally define them. But space is not an object; it must be OTHER—NON OBJECT, BUT KIN TO ALL OBJECTS. Space is not something, because if it were it would be an object; but it is not nothing, because then it would be irrelevant as relativity claims. Space must exist between something and nothing, neither one nor the other. Space cannot be irrelevant as relativity suggests, because space is the stage upon which all objects move, in which they exist. Take away space and there can be no motion, since there would be no room in which objects could move.

Might there be some method to "detect" space? Something similar to the radioactive dye that doctors inject into patients to detect certain illnesses?

49.

So light travels at a certain speed in a vacuum. And when it moves through a non-vacuum, it travels more slowly. My question is this: what happens to the light waves following on the heels of a wave that has entered a non-vacuum and slowed down?

As an example, let's take water flowing through a pipe. If the pipe narrows, the flow speed increases through the narrow section of the pipe, so that the same amount of water is moving through the narrow portion of the pipe as is moving through the wider portion in the same amount of time. But suppose the water, moving into the narrower section of pipe, did not speed up. Would not the water be impeded as the pipe narrowed? Pressure would build at the point of narrowing, as the incoming water was impeded by the slower moving water. The narrowing pipe would in effect "plug up" the pipe, causing a backwash of water. The pipe would probably burst.

Similarly, when light slows down upon entering a new medium, what happens to the incoming light as it reaches the slower moving light at the transition point, and finds its passage impeded? Shouldn't light somehow "build up" at the point of transition to the new medium? Shouldn't some sort of "light pressure" build up, a "backwash" of light, an excess of light with nowhere to go as the faster moving waves "pile up" against the slower moving waves? Shouldn't there be a sort of "traffic jam" of light, that propagates backward along the path of the light, similar to the ever increasing backup of traffic on a freeway as rush hour moves on?

50.

The common understanding of gravity is basically that if you drop something, it falls, it gravitates toward the earth. Are there other effects of gravity? The relativist would say that it warps time (of course, he would actually say that gravity doesn't warp time; it is a warping of spacetime; but I won't get into that right now; I'm just using this as an example). Okay, you drop something, it falls; it warps time (supposedly). Might there be some other effect of gravity that has been overlooked? I mean something fundamental, not something like, "It makes water fall," or, "It keeps the moon in orbit." Those aren't new effects; they're related to "You drop something, it falls." Is there any overlooked fundamental effect?

Likewise with magnetism, and electricity. Any overlooked effect?

I don't have anything in mind; I'm not leading up to something here; I'm just writing this down to spur future thought.

51.

What sort of clocks are used in GPS satellites? If GPS satellites supposedly take gravitational time dilation into account because the clocks on GPS satellites run slower, I need to know what sort of clocks they are using. Do they use atomic clocks, or clocks that are synchronized with the ground using light signals?

52.

Thoughts on relativity:

To those who hold fast to relativity, saying it's been proven time and time again by experiment: you never know what you don't know. Don't cling so tenaciously to relativity that you refuse to accept that there might be something "out there" that could come along and debunk relativity. Absolute confidence is a weakness.

Another reason I believe the current scientific view (quantum mechanics and relativity) is wrong, or at least incomplete: we have no antigravity. For no objective reason other than my own hope and belief, I believe that antigravity must exist. The fact that we haven't discovered it yet, or that current standard theories don't predict it, is another indication that current theories are wrong. I myself don't even have a crackpot theory about how antigravity would arise, but I believe it must exist, but I believe this for no reason that I can logically, objectively justify.

Being a huge science fiction fan, and a huge Star Trek fan, you might think that I would want relativity to be true. And I do. It would be great if relativity were true. Time dilation, warping of spacetime, etc—all very wild, science-fiction-type ideas; they're very attractive. So yes, I do wish relativity were true. But I can't accept as truth something as flawed and inconsistent as relativity is, no matter how much I might wish it were true.

53.

One major flaw of the Michelson-Morley experiment is that it makes an unfounded assumption about the nature of the aether. It assumes that the aether behaves like any other fluid, and that it should be simple to detect our motion relative to it.

It's like something else in science that has always bothered me. When talking about life on other planets, scientists always say, "Well, there's no water on that planet, so there can't be any life." They assume, and explicitly state, that water is a key ingredient for the development of life, and that without water, life cannot develop. It's a foolish assumption! You can add the caveat, "*Life as we know it* cannot

develop without water.” But even that is a foolish assumption, because scientists ***still don’t know how our form of life developed!*** Sure, they’ve got theories, but in no case do they have any tangible evidence of life going from their “list of ingredients” to actual life. Their theories are thus sheer speculation. So how can they say what our type of life’s development requires, let alone generalize that requirement to any form of life that might possibly exist? Foolish assumptions!

If there’s an aether, it must behave *this* way, we must be able to detect it by *this* means, else it doesn’t exist. Foolish!

You don’t know what you don’t know, so don’t be so sure of yourself. I would say that you can’t even be *reasonably certain* about what you don’t know. “We can be reasonably certain that we don’t know *this*, but we *know* we know *this*.” Arrogance! Foolishness! Pride coming before a fall and all that.

54.

A sound wave is made when something, an object, “bangs” against the surrounding medium, such as air, and this “banging” is transmitted through the medium, where it can be heard by “ears” a given distance from the object doing the “banging.” The sound wave itself is a “representation,” it is a phenomenon which is of a different sort than the “banging” that gives birth to it.

Now, similar to a sound wave, a light wave is produced by an atom “banging” against the surrounding aether. This “banging” is transmitted through the aether, where it can be seen by “eyes” a given distance from the atom doing the “banging.” The light wave itself is a “representation,” it is a phenomenon which is of a different sort than the “banging” that gives birth to it.

In sound, the banging motion is converted into a wave which is transmitted from the source, through the medium to a receiver, where it can be converted back into a motion similar to that which gave it birth. But in between source and receiver, the sound wave itself has few of the properties of the object producing the wave; the wave is quite dissimilar from the source.

Likewise, though a light wave is given birth by moving electrons and magnetism, the wave itself bears little resemblance to these “objects” which birthed it. Thus an electromagnetic wave is not an electron, nor a magnet or magnetic field.

55.

I have had “arguments” with people on the internet about relativity. One of these arguments led to someone challenging me thusly: “When you’re driving in your car, can you prove to me through any experiment that you and your car are actually the ones moving, and that the passing buildings are standing still?” The person who leveled this challenge held steadfastly to the view that no, I cannot prove that it’s my car moving and the Earth standing still, rather than the reverse. Either view is equally valid,

since no experiment can prove which situation is the truth. There is no absolute motion, only relative motion.

Obviously such is the standard view of mainstream scientists. So then: if such is true, then the universe rotating about the Earth is equally as valid a view as that of the Earth rotating about the sun. In other words, a supporter of relativity must admit that a heliocentric view is just as valid as a geocentric view. Why then does mainstream science reject geocentrism? To be fair, a relativist must accept both geocentrism and heliocentrism, else he is being just as “crackpot” as a supporter of geocentrism. The relativist cannot say absolutely, “The Earth orbits the sun and the universe does not rotate around the Earth.” He can only say, “From one point of view, the Earth orbits the sun, and from another point of view, the universe orbits the Earth. But there is no fact of the matter as to which view is correct.” So why do scientists scoff at geocentrists as religious crackpots? Why do they not simply admonish the geocentrist for claiming an absolute frame of reference centered on Earth, rather than ridiculing him for foolishly believing that the Earth is the center of the universe when, they claim, it is obvious that the Earth orbits the sun? In other words, scientists ridicule geocentrists not for claiming a privileged frame of reference, but for choosing what they believe to be the *incorrect* frame of reference. But, if they hold to Einstein's views, there is no correct or incorrect frame of reference; they're all equally valid.

The religious geocentrist has grounds for choosing an absolute frame: God created an Earth-centered universe. And I believe that is the heart of the matter as to why scientists ridicule geocentrism: it is “tainted” by religion. For the scientist, any frame of reference is equally valid, *except* for the geocentric frame. The geocentric frame is invalid and ridiculous because it is a *religious* frame, and so cannot possibly be a correct frame. So when a scientist scoffs at geocentrism, he is actually scoffing at religion. He rejects the geocentric view not on scientific grounds, but out of a personal distaste for religion. So much for the objectivity of science and scientists. If he claims to reject it on scientific grounds, then he must concede that not all reference frames are equally valid, since he is able to experimentally reject one particular frame of reference. In which case he must reject relativity, since in finding that one particular frame of reference is not equally valid, he has disproved one of the core assertions of relativity.

56.

Let's say a probe on Mars or in deep space “tracks” the motion of the Earth in order to keep in radio contact with Earth. Say this is offered as proof that the Earth orbits the sun. We can tell Earth is moving around a common center because we can detect such motion from a distance, from another planet or deep space, so that is the proof of Earth orbiting the sun and a disproof of egocentricity.

Okay. But doesn't such an argument pre-suppose that the Earth is in motion? Is this supposed motion of Earth not still relative to other objects, and we are assuming the Earth is the object in motion? Isn't such a proof merely choosing the sun as a stationary reference point, and then tracking the motion of the

Earth and the probe relative to the sun? Could we not just as easily choose the Earth as the stationary reference point? Why choose the sun? Because it is bigger than the Earth? Or because choosing the sun offers the simplest explanation for the trajectories of all solar objects?

It seems to me that the proof of a distant probe tracking the Earth's motion is not a disproof of geocentricity. It merely assumes the motion of the Earth around the sun, which is precisely what the geocentrist denies. So to offer as proof something which assumes what the geocentrist argues against is an invalid proof.

57.

Are there "matterless" magnets? Can magnetic forces exist in the absence of matter? Without being "wrapped" in matter? If they are truly caused by atomic arrangement within matter, the answer would seem to be, "No."

Could a single atom give rise to a noticeable magnetic force?

Might it be possible to shift magnetic poles around in matter? If the poles were moved closer together, without being allowed to repel, would mutual repulsion eventually cause the matter to "blow up" due to internal pressure from the magnetic repulsion? Do magnetic poles naturally seek to be as far apart from one another as possible within matter, without "leaving" the matter, in which case the force would no longer exist? If they're close enough together within the matter, could repulsion force one or both of the poles to "leave" the matter, in which case the magnetic forces would be existing on their own, apart from matter, as in the question I asked in the first paragraph? Might there be a case where one pole of a magnet is located at one tip of a piece of matter, while the opposite pole is located somewhere beyond/outside/past the opposite tip?

If the magnetic force did exist in isolation from matter, what would give rise to it? Aether? And since they say there are no monopoles, what would "bind" such a matterless magnetic force to its opposite pole? And would a matterless magnetic force be considered a "magnetic wave?" If so, how might it combine with electricity to produce an electromagnetic wave? And why does a passing electromagnetic wave not produce any noticeable magnetic attraction in surround matter? Or does it? If not, might the addition of an electric component to an electromagnetic wave somehow "cancel out" the magnetic effect of the wave? In normal situations, might electricity and magnetism be in balance, so they cancel out, but in situations where we have detectable electric or magnetic activity, the forces are "out of balance?" So that we have either an excess of electricity, or an excess of magnetism?

58.

If the Earth is at the center of the universe, and the sun orbits the Earth, how does our current understanding of gravity sit with this? Does it render our current Newtonian understanding of gravity completely untenable?

Questions to ponder: if the sun orbits a stationary Earth, and various other planets orbit a mobile sun, as in the Tychonian model, why are some planets attracted to the sun rather than the Earth? And why would the sun, being much more massive, orbit the Earth? Does this mean that gravity does not depend upon mass after all, but upon some other factor? And why are the sun and the other planets in motion in the first place? Are they continually falling toward Earth even as they're moving laterally, as is the standard Newtonian view of objects in orbit? Do all things "gravitate" toward the Earth? If so, why are some planets orbiting the sun? Or do they all orbit the Earth? If gravity does not depend upon mass and distance, then gravity is perhaps a property associated with the center of the universe, with Earth.

If we assume the geocentric view is correct, what might we deduce about the nature of gravity that we cannot deduce from a heliocentric view?

59.

I don't understand why any scientist would have a problem accepting that Earth might be at the center of the universe. One of the main arguments scientists use against God or intelligent design is that "There is no Designer needed. Life as we know it is the type of life we would expect given the present conditions." So why not apply this to an Earth-centered universe? If the universe has a center, perhaps conditions for life are most favorable at the center. So life as we know it is in the place we would most expect it given the present conditions. There is no Designer needed. Yet scientists fight geocentrism tooth and nail. Why are they so afraid of it? If they can accept life without need for a creator, why can't they accept an Earth-centered universe without need for a creator? You can reject a creator on the same grounds in both cases. So why such resistance in the face of evidence that supports geocentrism? Acceptance of geocentrism does not automatically require acceptance of a creator. Yet scientists seem to think that it does. If a deity is a corequisite of an Earth-centered universe, then a deity is also a corequisite of life.

60.

Space is not static. With each moment that passes, we enter into a new space. This new space may look identical to the space we just left the previous moment, but it is a new space, just as each moment is

not the same as the moment before it. Space constantly changes, but science treats it as if it were static. Thus when we cross a certain distance, each point along our path is located within a different space; the path of our motion is not contained entirely within the same space.

61.

Suppose there existed a creature with the ability to sense gravity, with a gravity “sense” upon which it relied much in the same way we rely on our five senses. And by *sense gravity* I don’t mean to say that it can feel the pull of gravity much as we can feel our own weight. I mean a gravity sense that can detect gravity in the same way our eyes can detect light and build a picture of the world around us. Perhaps this creature could actually sense gravity waves, assuming for the moment that gravity consists of waves. I mean, this sense would go beyond detecting gravity as we humans do, essentially by our sense of touch and sight (of the weight of our flesh as it’s pulled to the Earth, or the sight of an object falling). Aren’t there other ways to detect light other than our sense of sight? Yet our sense of sight gives us a unique perspective on light. What sort of sense might a creature have to sense gravity in a similar manner, that would give a unique perspective on gravity? How much is our understanding and conception of light influenced by our unique sense of sight, and how much might our understanding and conception of gravity be influenced by a sense of gravity, if we had one? If we had no sense of sight, with no idea of what such a sense might entail, what would then be our understanding and conception of light, without the influence of our sense of sight? Similarly, we are essentially “gravitationally senseless.” Try to imagine how this lack might be hampering our understanding of gravity. If we were to compare what our understanding of light might be like if we were “light senseless” with our understanding of light as sighted beings, might this comparison point us toward the discovery of certain properties of gravity the existence of which we are currently ignorant due to our lack of a gravitational sense?

62.

We detect light by putting something in the supposed path of a light beam or ray, and this something supposedly interferes with the passage of the beam or ray. For example, we monitor a source of light when it radiates an electromagnetic pulse (supposedly). This pulse is then detected by an instrument placed at a distance from the source. By noting the time of the pulse radiation and its subsequent detection by the instrument, we calculate the speed of light. From this it is assumed that a light wave or particle must have traversed the space between the source and the detector.

But why do we assume this? How do we know that anything, a wave or a photon, has traversed the space which we did not monitor? We only monitored a single point a certain distance from the source. So all we can say with certainty is that our source of light supposedly emitted something that was

subsequently detected by our distant instrument. What transpired between emission and detection—who can say, since we did not measure the entire space between source and detector. For all we know, *nothing* passed in the intervening space; a change occurred in our source, which was detected by our instrument a short time later. Unless we monitor the entire intervening space, how can we know that *anything*, wave or photon, traversed the distance? We might just as correctly say that the intervening space was irrelevant, and that our detector responded independently to the change in the source, sort of “telepathically,” with no physical contact with a mediating agent (a wave or photon).

The only way we know light is present is by a disturbance in a detecting instrument (whether that instrument is our eyes, or a mechanical device). But how can we ever be sure this disturbance is in response to a mediating agent, carried to our detecting instrument from a light source? The disturbance might just as easily be due to a sort of “action at a distance,” involving no physical contact or transference at all.

Call it an “occult” phenomenon, if you want, the same way Newton’s “action at a distance” theory of gravity and attraction was branded occult. That automatically stops all thought in the minds of scientists, and they refuse to think any further about it. They will not accept the notion of gravity or light without an intervening medium to transfer action, whether it is particles or waves or whatever. But we should consider the possibility. Just because we don’t understand how it could work, why call it occult and put it off limits for speculation? Why label someone who does speculate on it a “crackpot?”

63.

My mind keeps returning to a “discussion” I had on youtube.com, after watching a video on relativity. I posted a comment on the video, and that led to my “discussion” with another user. The “discussion” somehow led into an example where I’m in my car driving down the highway. The other user claimed that there was no physical experiment I could perform to prove that I was actually the one in motion. As far as relativity is concerned, I in my car could be regarded as standing still, and the highway was moving past me. Either view was equally valid. I objected that I know I’m the one actually moving, because earlier that morning I was at rest with respect to the Earth and the highway, then got in my car and accelerated onto the highway. Ergo I am the one actually moving. Doesn’t matter, according to my youtube opponent. I still can perform no experiment to prove I am the one moving, so either view is equally valid. And I perfectly understand the assertion—but I can prove I was previously at rest, and accelerated. So I am the one moving. Doesn’t matter to me that I cannot currently perform an experiment to prove I am moving. I KNOW I am the one moving.

This discussion to me just points out the absolute idiocy of relativity. It’s also the discussion that led me to my current interest in geocentrism.

64.

Let's pretend that geocentrism is correct, and that parts of relativity are as well. Time dilates as things move. So then, as an object moves away from a stationary Earth and out into the rotating universe, the further away from Earth the object gets, the more dilated time for the object will become. A star millions of light years from Earth will follow a MUCH longer path around the Earth than a star closer to the Earth, so the more distant star will experience incredible time dilation. From our point of view it will probably be traveling faster than light, but of course it isn't really, since from its own point of view, light is still traveling at the usual speed.

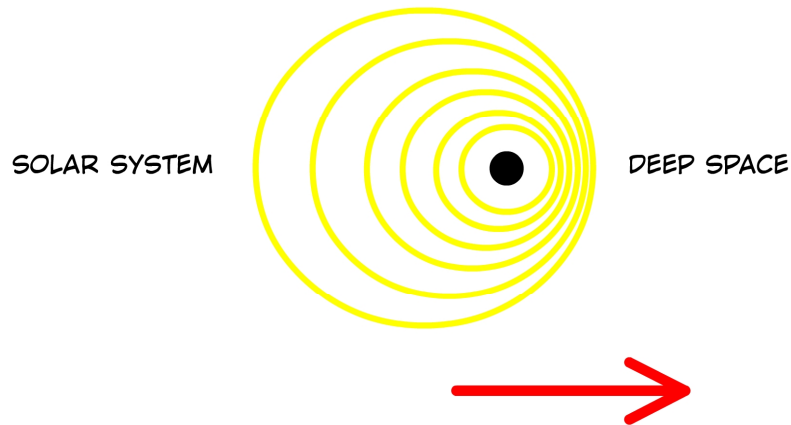
But again, we're just pretending here that relativity is valid. But of course I don't believe that it is.

65.

So what does the Pioneer anomaly tell us? Since spacecraft reaching the outer solar system are slowing down more than expected, what this could actually mean is that signals (EM, light) from the craft are traversing the intervening distance more quickly than expected. Since our only contact with the craft is EM signals (light), all our knowledge of the position of the craft depends upon those signals. So if we're expecting the craft to be at a more distant place, but the travel time of the light tells us the craft are closer than we expected, what this could actually mean is that the craft are precisely where we expected, but that the signals from them are traversing the intervening distance more quickly than they should. All of which might mean that as we get further from the sun (assuming a heliocentric model) the speed of light increases. Either that, or as we get further from the sun, space is contracting. Atoms and whatever comprises space are becoming more "scrunched together," so that distance contracts. One mile as we on Earth measure it would be, far from the sun, only, say, three-quarters of a mile. And further beyond that, one mile as we measure it would be, say, one-half a mile.

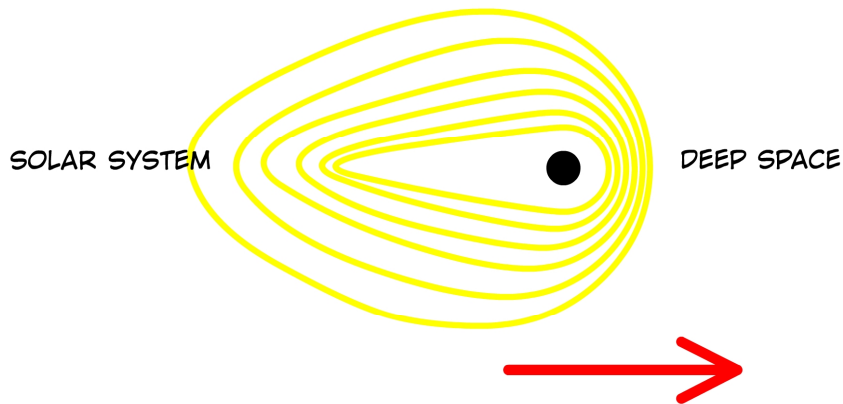
66.

Maybe magnetism absorbs gravity. Suppose I have a metal ball, and bring it near a magnet. Perhaps the magnet absorbs the gravity from the ball, drawing the ball to the magnet. It seems that the magnet, in such close proximity to the metal ball, is overpowering the force of gravity on the metal ball. But maybe the magnet is actually absorbing the gravity of the metal ball. What then is gravity, that it could be so absorbed and passed from one body to another? In such a case, it must be something inherent within an object, something tangible. Something akin to electric charge, that can be passed from one body to another. And why then would it be that only metals can pass their gravity to magnets?



ABOVE: THE CURRENT VIEW OF THE DOPPLER EFFECT WITH LIGHT. THE WAVES SCRUNCH TOGETHER IN THE DIRECTION OF MOTION.

BELOW: POSSIBLE BEHAVIOR OF LIGHT AS OBSERVED IN THE PIONEER ANOMALY. AS DISTANCE FROM THE SOLAR SYSTEM INCREASES, THE SPEED OF LIGHT INCREASES, SO THE WAVES ALSO SCRUNCH TOGETHER IN THE DIRECTION OPPOSITE THE MOTION (BACK TOWARD THE SOLAR SYSTEM). THE OBJECT, IF LIGHT OR RADAR IS USED TO DETERMINE LOCATION OF OBJECT, WILL SEEM TO BE CLOSER THAN EXPECTED, IF ONE ASSUMES THE SPEED OF LIGHT REMAINS CONSTANT WHEN CALCULATION LOCATION OF OBJECT.



67.

Any theory that relies more heavily on mathematics than on common sense and everyday experience is an immediate indication that the theory is a weak structure built on very shaky foundations, since mathematics can be used to predict and prove just about anything, most of which has no physical reality.

68.

Aether resistance. Metal impedes the flow of aether, which is why it is magnetic and conducts electricity. So electricity somehow arises from an obstruction of the flow of aether. FIGURE OUT THAT “SOMEHOW!” Might gravity also somehow arise from an impedance of aether flow? Or maybe large masses absorb aether, draw aether in toward it, which in turn causes the inflowing aether to push against intervening mass, “dragging” the mass toward the larger mass.

A good conductor of electricity is an insulator against aether.

69.

Otto von Guericke’s hollow metal half-shells—when they’re pressed together and the air is evacuated from the interior, they’re held together by air pressure from outside. Could magnetism operate according to something similar? The aether between the two attracting bodies somehow forms into an “aether vacuum,” and the bodies are sucked together, or rather pressed together due to pressure from the surrounding aether. Maybe the “aether vacuum” between the bodies has something to do with the bodies impeding the flow of aether, as in #68 above.

Or maybe something similar to two boats being crushed together when they get too close.

70.

In case I haven’t stated it explicitly already: I do not believe in black holes. Black holes are another fallacious legacy of Einstein. Modern scientists claim there is a black hole at the center of our galaxy, and probably most galaxies. The evidence for this is entirely circumstantial and speculative. Yet it is presented to the public as fact. It is bullshit.

71.

You may wonder what my qualifications are for saying everything I'm saying in this book. You may wonder: is this guy just some fool with no scientific training?

Here is my background. High school drop out. Just a smidge short of four years of university, during which I had one semester of Preparation for Chemistry, two semesters of General Chemistry, one semester of Organic Chemistry, one semester of Physics, two semesters of General Biology for Majors, one semester of Microbiology, one semester of Genetics, one semester of Developmental Anatomy, one semester of Psychology, one semester of statistics, numerous semesters of mathematics (including College Algebra and Precalculus), one semester of Philosophy, a few semesters of History. And these are all courses I passed. I did not list courses I did not pass; I did have a few F's in my school days, but only because I stopped attending the classes for personal reasons. Add to that, I've literally been reading books on physics and relativity every day for at least ten years since my university days.

So you tell me. Am I a stupid person with no grounding in science? Or can you credit me for having at least half a brain?

72.

Why is the diameter of earth's orbit very nearly a decimal multiple of the speed of light as measured in seconds? Is there some significance to this? And if there were some significance, wouldn't we expect the diameter to be a sexagesimal multiple, since our system of time is based on 60 rather than 10? Isn't it a bit of a coincidence that we just happen to live on a planet where the diameter of the orbit is a multiple of SPEEDOL? Might this somehow be indicative of a mistaken assumption that Earth is orbiting the sun?

ADDED LATER: The diameter of Earth's orbit is roughly 1000 times the speed of light as measured in seconds. The circumference of the orbit is roughly a million times smaller than a light year. Earth's orbital speed is roughly 10,000 times smaller than the speed of light as measured in seconds. Why is everything related to Earth's position relative to the sun, and its motion through space, roughly a decimal multiple of light speed? It seems a very strange coincidence, and my hunch is that it's indicative of something significant, although for the life of me I can't see what.

73.

I guess what I'm trying to say is that equations and theory have been shaped to fit observation, through a process of trial and error. The reverse is not true; observation has not been shaped to fit equations and theory. This is why it bothers me when I hear modern scientists say that our technology is

based upon such and such a theory, that we wouldn't have our technology without the theory, that our technology proves the theory. It's simply not true. I don't need a theory of the electron in order to be struck by lightning in a thunderstorm; that is, if I stand in a thunderstorm with a lightning rod, whether or not I'm struck by lightning does not depend on whether I have knowledge of atoms and electricity. I'm not somehow magically immune to lightning strikes if I don't understand how lightning or electricity works. I don't need an understanding of rotation or angular momentum in order to reap the benefits of the wheel; I don't need a theory of hydrodynamics to harness the power of a river. I can do so without equations or theory. The river will still yield its power to the waterwheel regardless of whether I have an explanation of why. Equations and theory are after the fact; they're shaped to observation. So for a scientist to say that our technology proves the theory "behind" it, that it wouldn't be possible without the theory, is nonsense. The fact that something works doesn't prove that our explanation for why it works is correct. So to label someone as a fool or a crackpot for questioning a theory that has been "proven over and over again for a hundred years"—well, it should be obvious by now who I think the fool really is.

74.

We rarely see electricity outside a conductor; it nearly always flows within matter, except in rare cases, such as lightning. Magnetism is most always seen outside matter. Are the preceding assertions correct, and if so, does this indicate that electricity is due to the action of matter, whereas magnetism is due to the action of ether, and also, does this indicate that the two are separate phenomena, rather than intertwined as is the common belief, i.e. electromagnetism?

75.

The heart of a scientific theory is in the concept, not in the mathematics. To understand the theory one need not understand the math; all that is required is understanding of the concept. An unsound concept cannot be supported by sound mathematics; in such a case, it indicates that the theory bears no relation to reality. But a sound concept can be supported by unsound mathematics; in such a case, it means the correct mathematics have not yet been deduced.

The mathematics follows from the concept; the concept does not follow from the mathematics.

76.

Some of the testable hypotheses I have put forward at various points in this book (question/statement):

- Are magnets weaker at night? Light affects the strength of magnets.
- Is there a limit to the number of planets a star can host? Gravity can be depleted.
- Is magnetism due to an impedance of ether? Magnetic poles will change as the orientation of a magnet is changed. (Obviously, at short distances, this one is easily disproved. But perhaps try changing the orientation of the magnet 8000 miles away, i.e. note the location of the poles at one location, then transport the magnet 8000 miles, reorient it, and note whether the poles have changed).
- Is time a factor in Young's double slit experiment? The interference pattern will not build up if a sufficient time is allowed between firings of single photons.
- Is an increase in the speed of light responsible for the Pioneer anomaly? As distance from the sun increases, the speed of light increases.
- Is a contraction of space responsible for the Pioneer anomaly? As distance from the sun increases, the degree of contraction of space increases.
- Does the transition of light from one medium to another affect the subsequent light? There is a "backwash" of light at the point where one medium meets another ("backwash" here meaning some type of observable effect).
- Magnetism can be depleted.
- The age of an object is a factor in its gravitational power.

77.

The entire universe is filled with very small, densely packed particles of aether. The universe is rotating, and with it, the aether. This sets up a "Newton's bucket" effect in the aether. The earth is at the center of the universe. It is not rotating. SUBSEQUENT NOTE: 13 days later, and I have no idea, I cannot remember, where I was going with this line of thought. So what good are these notes, if a few weeks later I reread them and have no idea what the hell I was getting at?

This of course is a hypothesis. It is not necessarily something I believe. It is just something to explore.

Let me clarify something. The reason I say this is not necessarily something I believe is this: I literally just came up with the above notion. I'm writing it down here without giving it much thought, merely because I intend to consider it further. I'm only preserving the initial thought here because if I don't, if I only hold on to it mentally, I may lose it. If I write it down, I don't have to worry about losing it, since it's preserved here. This is similar to many of the things I've asserted in this book: they are initial thoughts intended for deeper consideration by myself at a later time. Of course, some of the things I've written herein *have* been given deeper thought, much deeper thought, such as my lengthy writing about relativity. So how can you tell the difference between whether a section of writing is an "initial thought," or one that has been given deeper thought? Length, I guess. If I write on the subject numerous times, or

for several pages, most likely I've given it more than cursory thought. I try to record every thought I have like this, because you never know. The "one that got away" might have been "The Big One." And I am aware how far-fetched and "hole-y" some of these initial ideas may seem; I can already see some problems with the idea I wrote at the beginning of this section. But that's all part of the process.

78.

If relativity is correct, we should expect a null result for Michelson-Morley due to time dilation. Since Michelson-Morley is merely an experimental application of the "light shining fore and aft and from wall to wall in a moving rocket" thought experiment. The man in the rocket, according to relativity, cannot tell he is in motion by measuring the light. But an outside observer in motion relative to the rocketeer would. So: someone in motion relative to the Earth would say that an Earthman performing Michelson-Morley should measure a fringe shift (should NOT get a null result).

So if I do not believe in relativity, and everything I've written previously regarding the Doppler effect is true, then I should expect that we would get a fringe shift in the Michelson-Morley experiment.

Since we do not, I should conclude that either: relativity is true, or that the Earth is motionless.

Since I reject relativity, in light of Michelson-Morley, I should conclude that Earth is motionless.

79.

6-20-09

So let's take stock of my current scientific beliefs.

1. I reject relativity.
2. I question the heliocentric theory.
3. I question the Big Bang theory (namely that stellar red shifts indicate recession).
4. I question our current understanding of light.
5. I do not believe in black holes.

What's the point of this entry? I guess I'm trying to outline what I reject of modern physics, which I guess is basically everything; and to try to identify a common thread that I might latch on to in developing a new understanding of the universe. I think to develop a correct physics, we need to understand light, time and gravity (which modern science does not), and the interactions and connections between them. Everything else will fall out of that understanding. And by examining modern scientific theory, we can at least determine what this correct physics is NOT, by seeing where modern theory has gone wrong. Currently I believe that the fundamental error of modern physics is perhaps rejection of geocentrism. Oddly enough, I was not led to geocentrism by reading books on the subject; rather, my own speculations

led me in that direction, whereupon I looked into the subject and realized others had already been led in this direction. I sort of stumbled across it on my own, and then began reading books on it. I've been searching for a "fundamental error" in physics for at least ten years, and I now believe acceptance of heliocentrism and Galileo may be it.

80.

Just watched a show on the National Geographic channel called "Known Universe." In a segment near the end of the show, the narrator said, "When we travel, we travel through space."

No, we do not! We do not travel through space. We travel through time. When we move, we do not move through space. Rather, when we move, we move through time in the same way that we move through time when we're standing still. "The passage of time" and what we think of as "motion through space" are similar phenomena. We do NOT move through space. This is one of the major misconceptions of modern science. Look at the words: "*move* through space." Movement is motion; motion is a temporal process. To say we "travel through space" completely neglects time, the most crucial aspect of "travel through space."

81.

Here is a quote from "A Journey Into Gravity and Spacetime," by the renowned physicist John Archibald Wheeler, that perfectly illustrates a major gripe I have with modern physics. Speaking of gravity in the opening of the book, Wheeler writes: "It powers the gravity waves that carry energy away when tremendous mass clashes against tremendous mass. It crunches space in the interior of a black hole, bringing a time after which there is no time. Even more inspiring are the billions upon billions of cubic light years of space added to the volume of the universe every second, explained by gravity's action."

First of all, gravity waves are theoretical speculation. They have never been detected. Second, black holes have never been directly detected. Their existence is inferred based on the wobble of stars at the center of the galaxy, or gas plumes, and other indirect evidence. From this circumstantial evidence, it is claimed to be confirmed fact that black holes exist. It is in fact NOT confirmed fact. Thirdly, it is not proven fact that billions upon billions of cubic light years of space are added to the volume of the universe every second. Scientists believe the universe is expanding, and so claim that space is added to the volume of the universe. But as we well know, modern scientific theory denies the existence of absolute space. There are only relative relations between objects. So Wheeler should merely say that the distance relations between objects in the universe change with each second, not that space is added every second. Relativity by its very nature denies the existence of a discrete entity called "space." So how can Wheeler claim that billions upon billions of cubic light years of it are added every second?

This is an absurdity. Wheeler presents as fact three things that are absolutely NOT fact, and then waxes poetic about them. He speaks from a position of authority, presenting as proven fact things that are merely inferred and entirely unproven through experiment. They are mere theory. Given this deception, how am I supposed to accept anything in his book as true? If he puts forth misinformation at the very beginning of his book, if he is so obviously lax on his distinction between fact and theory, how does that bode for the veracity of the rest of his book?

Cut him a little slack, you might say. He is merely trying to paint a word picture to start out his book, to get you interested. He hasn't yet begun the "lecture" portion of his book. Give him a little literary license to stretch the truth, just to establish a little flavor.

But how far am I to extend this license? Every time I run across something I find questionable in his book, shall I let him haul out his license and wave it in my face? Sorry, but in books like this, I'll follow Dickens: "Now, what I want is, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life." Or at least, if you're going to throw in theory with your Facts, I demand a disclaimer right before you do so.

In the same vein, I once watched a series of lectures on YouTube.com by Richard A. Muller, another renowned physicist. The lecture was "Physics for Future Presidents." Somewhere in this lecture, I recall the esteemed professor speaking about "gravitons" as absolute fact, as he described how they mediate the gravitational force. He did not mention that gravitons were merely theoretical, that they have never been detected. He presented them as fact, to a classroom full of students soaking up his every word, not to mention all the people such as myself watching over the internet. I'm skeptical of the existence of this whole zoo of particles anyway, and then to have someone authoritative like Muller throw in particles I know to be sheer theoretical speculation—how can you trust anything he and his ilk say?

You've got to watch these sneaky "authorities" on scientific subjects. They'll fill your mind with misinformation if you don't listen to them with a very critical and skeptical mind.

Keep in mind that as I write this section, it is October 11, 2009. Gravity waves have not been experimentally detected. The evidence for black holes is circumstantial and not incontrovertible. Gravitons have not been experimentally detected. Push any honest scientist, even Wheeler (if he were still living) and Muller, and they will have to concede my point that these things are not proven fact. And black holes were even less "fact" when Wheeler wrote his book than they are today. But to you who are reading this, black holes, gravity waves and gravitons may be absolute proven fact in your time. But they are not as I write this. If they have been proven by your time, you may be tempted to say, "Well, these men (Wheeler and Muller and their like) had exceptional foresight. They KNEW it was inevitable that gravity waves, black holes and gravitons would eventually be proven. So they could confidently lecture about them, knowing they would eventually be proven true." And indeed, I believe this is the attitude of many scientists today regarding theoretical speculation. They "have faith" that their speculations will inevitably be proven true, and so they preach about them as fact to the masses. But such "faith" is entirely

against the spirit of science, and I utterly reject any scientist who teaches and disseminates theory as fact based on such "faith." If they want to first attach a disclaimer that, "Hey, this is merely a theory," then I am absolutely supportive of that. I WANT to hear such speculation. But to present it as confirmed fact...there is entirely too much of such "faith-based" scientific preaching going on today. This is one of my major gripes about modern mainstream physics, if it isn't my PRIME gripe about modern mainstream physics.

It is my gripe because, when theories have been absorbed as fact by the masses, due to the preaching of an overzealous scientific priest, if someone such as myself then dares to stand up and say, "No, you're completely wrong, everything you're preaching is a lie," the crowds look at me or someone like me and say, "This man is a fool. Who would dare question the wisdom of our beloved priest? Let's label this man a crackpot as our priest instructs, and cast him out."

82.

We know light is affected by gravity. Gravitational lensing is an observed fact.

The Global Positioning System (GPS) is offered as one proof of relativity. The effects of gravity on time must be taken into account, supposedly, proving relativity. This is based on the assumption that the speed of light is constant.

But consider: gravity affects light. This has been observed. So it wouldn't be difficult to imagine that the speed of a light ray would increase as it gains distance from Earth, since the effect of Earth's gravity weakens with distance. Earth's hold on the light beam lessens as the beam distances itself from Earth. Light's velocity increases. Thus, if one assumes that the round trip velocity of the beam is constant, as in relativity, then any calculation based on that assumption would reveal an error that would have to be compensated for.

So: you could either say that GPS proves that relativity is correct because a time dilation must be accounted for in the position of the satellite, or you could say that GPS proves that gravity affects light and that the velocity of light is not constant. Either way, you still must make the same adjustment in the GPS system. The relativists claim that GPS proves relativity is based on the relativist's assumption that one of relativity's basic postulates, the constancy of the speed of light, is true. You can't assume a theory is true and then use an observation as a proof of the theory if that observation only supports the theory when you assume one of the assertions of the theory is true. It's a circular argument. In other words, if an observation supports both theory A and theory B, theory A isn't justified in saying, "Ha! See, theory B, I'm the correct theory, because if we assume I'm correct and you're not, then the observation supports me." You prove a theory by pitting it against an alternative theory that can't be proven by the same observation. In other words, given two theories, theory A is true only if a particular observation supports theory A but not theory B. If the observation supports both theories, then neither theory can claim victory

from the observation. Thus GPS does not “prove” relativity. It SUPPORTS relativity. But it also supports alternative theories.

Since the “proof” in GPS encompasses two alternatives, I choose not to accept the alternative that GPS proves relativity. It makes more sense to me that GPS proves that the velocity of light is not constant.

83.

The reason relativity cannot possibly be a correct theory is because it implies a question that it fails to answer: WHY is the speed of light constant for all observers regardless of their state of motion? The constancy of the speed of light is a foundation of relativity, and because it fails to explain the reason for this constancy, that foundation is extremely weak. Relativity raises the question, and because it fails to answer its own question, the correctness of the theory itself is questionable.

84.

Maybe light itself is relative. It has NO speed, because it is a response, a change, in one object to something in another object. Light is not emitted, it has no path through space, and thus does not travel through space with a velocity. The only way we ever know of light’s existence is when a “detector” supposedly intercepts a light beam or wave that was supposedly emitted from a separate object. An object moves into the supposed path of a light beam, and responds to the light beam. We actually have no evidence that a light beam, a photon, or light wave or whatever, actually travels through space. We do not know that a light wave actually has any independent existence, traveling through space until it strikes something. It’s like the old question of, if a tree falls in the forest and there’s no one around to hear it, does it make a sound? Maybe a light wave, as we commonly conceive it, does not exist.

85.

If the standard theory of an electromagnetic wave is correct, think of the EM wave as a handcar (a pump trolley). When one side of the arm is up, the other side is down. The constant pivoting up and down of the arm on the pivot, moving the handcar along the track, is like an EM wave: when the arm is fully up, it’s the electric side of the wave, and fully down is the magnetic side. Each side constantly varies from magnetic to electric, in direct opposition to the other side. Taken as a whole, the handcar represents one wavelength of the EM wave, being propelled along the track by the “pumping” of the wave.

So we have a “polar” wave moving through space, with each pole varying in direct proportion to the opposite pole, each pole cycling from magnetic to electric. These changing magnetic and electric charges, as they move through space, should induce a response in stationary materials as the wave passes. A

passing EM wave, with its changing magnetic field, should set up an electric current in any metal the wave passes. Likewise, the changing electric field should set up a magnetic charge in any metal the wave passes. This is basically where I get the notion that a magnetic might become stronger when exposed to light, or intense light, and that a magnet might weaken at night.

86.

Understanding time is the key to understanding everything. Relativity does not understand time. Therefore relativity cannot be a true, final theory of reality. Relativity cannot be a correct understanding of things because it doesn't offer an explanation of what time is.

87.

Are not our seemingly five separate senses in actuality mere variations upon a single sense, namely the sense of touch? After all, don't all our senses arise due to tactile contact of our sense receptors with physical objects? Smell is due to our nose's contact with certain molecules; hearing is due to our ears' contact with air molecules; taste is due to our tongue's contact with certain molecules; and sight—isn't sight due to our eyes' contact with light, whatever sort of "object" may be behind light? Don't our senses differ only in the way our brains interpret tactile contact? So why say we have five senses? Don't we actually have just one sense, that is interpreted five different ways?

88.

Man in glass rocket, outside observer—relative motion between rocket and outside observer—man in rocket turns on light bulb attached to hull of rocket—outside observer sees Doppler shift from light due to relative motion between light bulb and outside observer—man in rocket sees no Doppler shift due to no motion relative to light bulb (source)—yet both still measure same speed for light—what this reveals is that there is a dual property to light, some hidden property yet to be discovered. If there's a lack of addition of velocities (which is the normal manner for the Doppler to arise?) yet rocket man and outside observer have different states of motion relative to light bulb, then this shows a hidden property to light, a property that is revealed by relative motion. Einstein says it's time dilation, but I think it is something else. Or maybe it's not a property of light that's revealed, but of something else. Saying that time is dilated is too arbitrary, too ad hoc. There's no physical explanation for time dilation—*why* would time dilate the faster I go? Find me the explanation for *that* (a plausible explanation), and maybe I'll believe in time dilation. See, Einstein doesn't explain the *why* of time dilation, any more than Newton explains the *why* of gravity. Einstein's answer to the *why* of time dilation is along the lines of, "Time dilation is due to the

constancy of the speed of light for all observers regardless of their motion.” Which raises the question of the *why* of the constancy of the speed of light, which is also a question Einstein doesn’t answer. His answers to both questions bounce back and forth between each other, much like the light in relativity’s theoretical rocket clock bounces back and forth between two mirrors.

89.

There is an entire universe inside my head. I have a unique perspective on the universe. I am looking out on it from a point filled with my thoughts, my consciousness. No one else sees the universe as I do. I look upon a dead, clockwork universe, and it is expanded by my consciousness. When I look upon other people, I see merely their outside, I see their dead, clockwork bodies. Yet, like me, hidden from my gaze, is an entire universe, much like the one inside my own mind. They too have a unique perspective on the universe. No one else sees it as they do. They look upon a dead, clockwork universe, and it is expanded by their consciousness.

When I gaze upon the universe, I perceive things that do not exist in the dead, clockwork universe. My mind causes things to *emerge* from the dead, clockwork universe, things that cannot be perceived without consciousness. Sound is just such a thing. Dead, clockwork molecules strike my eardrum in a dead, clockwork fashion. Without consciousness, the chain would end there. The collision between molecule and eardrum would be the totality of it. But my mind takes the collision and translates it into sound. Sound is thus an emergent property, something that my mind coerces from the collision, but that does not exist in the dead, clockwork universe. It requires consciousness.

You could object that, no, a sound recording device has no consciousness, yet it can record sound and play it back. Thus sound exists must exist without consciousness. But I rebut that the sound recording device merely records a digital representation of the molecules colliding against its receiving surface. It then uses the digital representation to reconstruct the sound wave, which it then broadcasts to my ear, where the molecules again collide with my eardrum, and my mind translates the collision into sound. Once again, nowhere does the sound exist until the molecules collide against my eardrum. Sound is not stored within the recording device.

When I observe molecules striking the eardrum of another person, as far as I can tell, the molecules merely collide with the eardrum of the other person, and the story ends there. I do not know whether that person has perceived a sound. As far as I can tell from my observation, there has merely been a collision of molecules against an eardrum.

When I am in motion relative to a source continuously emitting molecules, and those molecules strike my eardrum, my mind perceives a change in pitch of the sound that it translates from the collision. The Doppler shift. This Doppler shift only exists in my mind. It is an emergent thing, like sound. Without my consciousness, all that would be is a change in the rate at which the molecules collide. But the story would

end there, with no mind to translate that into a Doppler effect.

Now we get to my point. Let's assume that all observers measure the same speed for light, regardless of their state of motion. If I see another person accelerate to light speed, I will measure both his speed and light speed as the same. I cannot know what he measures for the speed of light, much like I cannot know whether he perceives a sound, since sound is an emergent property. What if, when we measure the speed of light, we are measuring an emergent property? What if the "speed of light being the same for all observers regardless of their motion," is merely a sort of Doppler shift, which, as I have said, is an emergent thing? What if the thing being measured is not actually speed, but some other property, and when we accelerate, that property changes, much like the Doppler shift, so that it appears to us that the speed of light is constant? This nature of this property should be revealed by considering that, as I noted above, if we take consciousness out of the loop, when there is relative motion between a molecular emitter and an ear, all we can say is that the rate at which the molecules strike the eardrum changes. When considering light, and an observer, without considering consciousness, accelerates to near light speed, all we should be able to say is that, in a way, "the rate at which the molecules strike his eardrum has changed." If we then introduce consciousness to the observer, then his mind will translate that "change in rate" into a speed measurement that matches that of a stationary observer. But I want to stress that "change in rate" is merely an analogy with sound, it is a sort of algebraic substitution for something, a property, which I need to tease out of all this. It is not meant to indicate an actual change in rate, which would be circular reasoning, since you would then claim I am trying to explain the speed of light by a change in rate.

I hope I have laid out all the above clearly, or at least clearly enough that you can get an idea of what I'm trying to say here. But this is all just for my future pondering anyway, so who cares whether or not "you" can understand it. What I am basically trying to say is that perhaps the constancy of the speed of light is an emergent property, and if so, how can speed be an emergent property, since speed would seem to be a property of the dead, clockwork universe? Much in the same way that everyone, leaving consciousness out of it, can definitely agree that molecules collide with an eardrum. I guess what I'm asking is, how can speed be moved from the non-emergent, no consciousness necessary category, into the emergent, consciousness necessary category? My contention is that, if we assume it is somehow so moved when we measure the speed of light, and we uncover *how* that move is accomplished, we will have uncovered a new property of light, and perhaps a new physics.

Einstein, if relativity is correct, has not tried to uncover that *how*, and thus relativity would be correct only up to a point—and thus it is incomplete.

90.

Possible reasons we do not see local (i.e. on Earth) manifestations of anti-gravity (or at least null-gravity):

1. Anti-gravity does not exist.
2. Anti-gravity exists and we are seeing manifestations of it locally, we just do not recognize that we are seeing anti-gravity.
3. Anti-gravity exists, but the conditions for its manifestation do not naturally occur on Earth.

91.

Here is the main nub of what I find so ridiculous about Science of today: as I've said elsewhere in this book, it is obviously mathematically possible take 3 apples away from 2 and be left with -1 apples; physically, it is obviously impossible to do so. I cannot possess -1 apples. When I only possess two items, you cannot take three items away from me. But today's scientist, seeing that it is mathematically possible to take three apples away from two, would conclude that it must be physically possible as well. They will hypothesize that there must be a type of apple that we cannot see, call it a smapple or something, so that the person who possesses two apples in actually possesses two apples and a smapple that he or she cannot see. So that when we take away three apples, we are actually taking away two apples and a smapple. This process of taking away the apples along with a smapple causes a third type of apple to be left in the possession of the person: a negative-apple-smapple. Perhaps the apples and the smapple, upon their removal, decay into this negative-apple-smapple. Today's scientist, since he has now brought physical reality into agreement with mathematics, then goes on a quest to find these elusive smapples and negative-apple-smapples. Even though he fails to find them at present, he is confident that one day they will be found, since they are mathematically predicted. Perhaps our technology is just not yet advanced enough to detect them. But they are there, they must be. It is definitely physically possible to take three apples away from two.

That is an illustration of what I find absurd and ridiculous about Science of today, and why I reject much of its theories.

92.

Newton's third law of motion somehow related to relativity? Equal and opposite forces, which force is the real force? Can each force be regarded as the "primary" force? It's a symmetrical relationship, is it not therefore relative?

93.

In this passage, I'm not making any outrageous claims; I'm just explaining a facet of the Doppler effect to myself.

A man is fifty feet in the air, standing on an open platform that is conveying him through the air. To his right and slightly behind him is a device emitting sound. He and the emitter are moving at the same constant velocity, so that they're standing still relative to one another. The man hears a constant, high-pitched whine from the emitter. The man then walks backward on the platform. As he does so, he hears the sound gradually lower in pitch. When he is slightly to the rear of the sound emitter, he stops and is again stationary relative to the emitter, but both man and platform are still speeding through the air at the same constant velocity. The man now hears a constant sound that is lower in pitch than the sound he'd heard while standing to the front of the emitter. The only time he hears a change in pitch, the only time he is aware of the pitch cycling down the scale, is as he is moving relative to the emitter. But the pitch of the sound he hears varies according to his position relative to the emitter. Since he knows the speed of sound is constant in the air, he can deduce that he must be moving, since otherwise he would not hear a cycling of the pitch as he shifted his position on the platform, and the sound would be the same no matter his location on the platform.

Now make the following modifications to the situation: the platform is now enclosed, and the sound emitter is within the enclosure; the air is trapped inside the compartment. All other factors are identical. Now the man will hear no cycling of pitch as he moves rearward relative to the emitter; the pitch of the sound he hears will not vary according to his position on the enclosed platform. This is because the air is now being carried along with the platform, which it was not in the first situation.

Back to the first situation. Pretend now that the man is blind, and unable to feel the wind rushing past him as the platform carries him through the air, and for some strange reason, the wind makes no noise as it rushes past his ears. Being blind and unfeeling, he has no way of knowing he is in motion. But wait...he does have a way. Since the pitch varies from place to place when he stands still on the platform, he can deduce that both he and the emitter must be in motion relative to the air. He cannot deduce this from the cycling of the pitch as he moves around the platform; it is only the fact that the pitch differs according to his stationary position on the platform; relative motion between himself and the emitter would create a

cycling even if one of them were stationary relative to the air. The change in pitch according to position will be true only if *both* he and the emitter are in motion relative to the air.

Something to look for: is there any situation in nature where, if both myself and a light source are stationary relative to one another, the light from the source is red-shifted or blue-shifted according to my position relative to the source? In other words, if both myself and the source are stationary relative to one another, does the light differ depending on whether I am standing in front of or behind, or to one side or the other, of the source? Look for such a situation in nature.

Polarization.

Might magnetic polarization somehow be due to a sort of Doppler effect as I've outlined above? Two magnets, if you maintain their same orientation relative to one another, will behave differently one to the other according to whether you place one toward the negative or positive side of the other. Position matters with magnets, much in the same way that a sound source in motion relative to the air will sound differently to a listener who is stationary relative to the source, but depending on whether the listener is to the front of the source's direction of motion, or to the rear. So does this mean the magnets are stationary relative to one another, but in motion relative to the "magnetic medium," whatever that might be?

Why do we speak of electric current, but not magnetic current?

94.

You may wonder why I bother asking questions such as "What causes magnetism? Might it be due to..." Your thought is probably, "We already know what causes magnetism, stupid. It's due to charged polar atoms within metal being lined up so that all the like charges are facing in the same direction. Stop asking why, like we don't already know why."

The reason is that I'm not afraid to ask questions about things we supposedly already know. As far as science is concerned, I don't think we know nearly as much as we think we do. The explanations we have could be completely wrong, and are blocking us from advancing. There are still a lot of unanswered questions regarding magnetism and other physical phenomena. So I ask such questions as if we don't already know. Because maybe we don't, not really. Ask enough questions, no matter how foolish, and maybe one of them will be the bread crumb that leads to the whole loaf.

95.

How do we know atoms exist, atoms as in the standard model? I think it's a bit ridiculous to think there's a thing called an atom, composed of a nucleus of smaller particles held together by forces that only operate at ultra-small scale, and that tiny bits of matter are whizzing in orbit of that nucleus at tremendous speed. The whole concept seems almost ludicrous.

96.

Why do I think that I might be able to come up with a correct alternative to relativity and quantum mechanics? Why do I think that I might be able to solve the mysteries of time, gravity, electricity and magnetism? Why me, if people far more knowledgeable than me are unable to? For God's sake, I don't even have a Bachelor's degree! What do I know of physics? How likely is it that someone like me could come up with a new, world-shaking theory that turns out to be correct?

The reasons I believe I'm capable of it are numerous. Let me list them.

I'm very intelligent. I may not have a Bachelor's in physics, but I've been studying physics on my own for at least a decade. I'm sure it's been more, but definitely a decade. (I took physics and chemistry classes during college at various times between 1991 and 1994, and since it is now 2010, it has to be at least nearly TWO decades that I've been studying). I read physics textbooks in my spare time, I read popular science books, I listen to university physics lectures on the internet. I'm constantly pondering gravity and time and such. So as much time as I spend on physical study and thought, if that were put toward a university degree, I would surely have a doctorate in physics. Fundamental physical concepts are quite clear to me, as are advanced concepts, even if I don't have high-level mathematical knowledge. I know university level algebra, I know trigonometry—I think that's more than enough, and anyway, I don't believe mathematics are needed to comprehend physics, as I've stated many times.

I question the most basic assumptions and concepts of physics. I'm utterly unconvinced of the validity of most of standard physics. I understand physics, and I am willing to admit that I could be totally wrong and standard physical models are correct—but I'm not fanatically attached to that correctness, as most modern scientists are. I can question everything, without feeling foolish for doing so. In fact, I'm probably as convinced that standard physical models are wrong as mainstream scientists are convinced that standard physical models are correct. But I'm willing to walk their territory, think their thoughts, whereas the reverse isn't true. Modern scientists are unwilling or perhaps even unable to follow the thought heretical pathways that I am. I don't subscribe to the church doctrine, I'm not a brainwashed member of the cult.

I have an extremely vivid and productive imagination. I'm actually capable of coming up with

alternative ideas. Coming up with alternative ideas requires a creative mind. And my experience is that most people lack imagination and creativity. I really think most modern scientists are probably unable to come up with original ideas, due to their lack of creativity. They can take existing theories or ideas and use them, they can perhaps extend them a bit, but creating new ideas on their own is beyond their capability. This isn't to say they aren't intelligent; just that intelligence and creativity are two separate things. You can have either one without the other. You can also have neither. Fortunately, I have both in abundance. This cannot be denied. My academic record and my novels attest to this. Combined, my imagination and my intelligence give me a wonderful laboratory to carry out thought experiments; they give me an excellent factory to construct new ideas.

I have perseverance. I hold tenaciously to things. When I set out to do something, if I am passionate about it, I will clamp on to it and cannot be shaken from it. And I am very passionate about time and gravity and such. I am very determined to find satisfactory answers.

I have the time. I am a reclusive person; I don't waste my time with social concerns. So I have a great deal of time to sit and think. Most people are so caught up in the drama of their lives that they have little time for actual deep thought.

So, my skeptical friend, to answer your question, it is very likely that "someone like me" could come up with a new, world-shaking theory that turns out to be correct. If *anyone* is going to come up with such a theory, it most likely will *be* "someone like me." The question that should be asked is rather, "How likely is it that a modern mainstream scientist, with his multiple PhD's, could come up with a new, world-shaking theory that turns out to be correct?" And I think you can guess my answer.

97.

Hypothesis: the speed of light increases the further one gets from the sun.

Testable consequences:

Space probes heading toward the outer planets and deep space will seem to be closer than they should be, as if they're decelerating.

Light from other stars will be blue-shifted.

Hypothesis: The older an object, the more gravitationally attractive it is.

Testable consequences:

Older stars will have stronger gravity than stars of equal size and density.

Earth of a specific density will exert more gravity than an identical density of a manufactured substance such as plastic.

Questions raised by hypothesis: is it only age that is a factor? For example, would a six billion year old, baseball size, ordinary rock exert more gravity than a star that formed only a few thousand years ago? I.E. does mass, or mass and volume, play a role, or is it age alone? And how big must an “object” be? Aren’t atoms objects, and aren’t most, if not all, atoms the same age? If an object was made by a man two days ago, aren’t its constituent atoms the same age as the atoms of a rock four billion years old? So why would the age of the object matter, rather than the age of the object’s atoms?

Hypothesis: electromagnetic energy strengthens magnets.

Testable consequences: A magnet will have a stronger magnetic field when light is shined on it; a magnet will have a weaker or an absent magnetic field when shielded from electromagnetic radiation.

Hypothesis: time is a factor in Young’s double slit experiment.

Testable consequences: if enough time is allowed between the firings of individual photons at the photographic plate, the interference pattern will not build up.

98.

I’m currently (1-17-2010) reading a book on basic electricity. As I’m reading about atomic structure, looking at diagrams of an atom, I can’t help but think how ludicrous it is to think that this might have any physical reality beyond being a convenient mental model for thinking about electrical interactions. The whole notion of protons, neutrons and electrons, and how they are supposedly integrated into an atom, seems to me like nothing more than a man-made construct. The standard atomic model seems so ungainly and awkward, and I have to believe that the physical reality must bear almost no resemblance to the accepted model. The standard model works, but it’s got to be just that: a model. I can’t believe that there are actual things, like ultra-tiny balls or bits of matter or something, comprising an atom. I rather think an atom must exist as a whole, singular thing, and that it exhibits certain properties that man has come to represent as proton, neutron, electron. But those things in themselves do not actually exist.

99.

If gravity could be conducted, what is it that would be conducted? The acceleration? The attraction? What is it that would flow? What would that flow look like, what effects would it have on other objects? What might be a conductor of gravity? Some natural substance? Could gravity be stored, for later release, like a battery?

100.

Think about what I've written regarding the relativity of simultaneity using the familiar rocket/outside observer/lightning strike examples. How would Michelson-Morley turn out in such a rocket? If relativity were true, according to its own examples, would we expect any differences in Michelson-Morley than the actual Earth results?

LATER NOTE: I think what I was getting at here was this: if I'm a stationary observer looking at an interferometer set up on a rocket moving relative to me, would I expect to see a fringe shift in the interferometer based upon MY assertions regarding the falsity of the relativity of simultaneity. And then compare this with the assumption that relativity is true and I'm an outside observer looking at the interferometer on the moving rocket. Or perhaps disregard this later note; maybe that's not what I'd intended to say.

I think I thought I was pondering something crucial here, thinking I'd hit upon a crucial notion, so I need to analyze this really well. Something to do with the Doppler effect and Michelson-Morley.

101.

Do you see what's happening? Relativity does not determine the simultaneity of two events A and B. It determines whether the light from two events A and B reached the eyes of an observer, or of various observers, at the same time. The occurrence of the events A and B, and the occurrence of the light reaching the eyes of different observers, are separate considerations; let's call them events X and Y. X is the occurrence of the events, and Y is the light from X reaching the eyes of observers. X and Y are separate. Relativity mistakenly treats Y as if it were X, and concludes that simultaneity is relative. In other words, relativity says that there is a one-to-one relationship between the events in X and the events in Y. But Y is such that you cannot conclude anything about the sequence of events in X from the sequence of events in Y.

102.

In the case of GPS satellites: is it really the case that clocks run more slowly higher in orbit? Or is it the case that gravity affects light, affects its travel time upward to the satellites, and since the scientists assume that the travel time for light is constant, when it actually isn't, they have to correct for this assumption between the ground and the satellite?

103.

Another objection an educated scientist might have to my claiming I understand relativity would be, "You may have dabbled on the surface of relativity, but you haven't delved deep. You haven't had advanced classes, graduate level classes, that get into the real grit of relativity." My response to that is, "The introductory relativity I've read is the foundation of it. It introduces you to the basic foundation. I understand the foundation, and it's faulty. So why delve any deeper? If the foundations are wrong, the rest of it can't possibly be correct. If a building is built on shaky foundations, it might collapse if I step inside, so I'm not going to endanger myself by foolishly stepping inside. Likewise, I'm not going to clutter my mind with minute details of relativity, when those details are extended from faulty first principles."

104.

Referring to 102 above: could this GPS thing be related to the Pioneer anomaly? In other words, scientists assume the speed of light is pretty much constant in Earth's vicinity, and on the outer edge of the solar system. So they correct for it. In the case of GPS satellites, they say the lack of synchronicity between the ground and the satellite clocks is due to time dilation, and in the case of the Pioneer anomaly, they say they don't know why the outward-bound satellites appear to be closer in than they should be (i.e. decelerating). But perhaps both the GPS satellites and the Pioneer anomaly are due to the assumption that the speed of light is constant, when it actually isn't.

105.

Sometimes I feel like I've got all the pieces of a jigsaw puzzle here, and I just need to fit them all together and I'll have the picture. Like I've got all the clues, and I just need to figure out how they all fit together and I'll solve the crime. The truth is right there under my nose, I'm staring right at it, and don't realize it. One day it's all going to suddenly crystallize and I'll think, "Wow! Why didn't I see it earlier?" It's a bit frustrating. Like I'm holding all the pieces, turning them this way and that, trying to fit them

together. I feel like the connections are so obvious they're about to leap out and bite me.

106.

- Light speed = 186,000 miles/second
- Light year = 5,878,499,810,000 miles
- Earth's orbital speed = 18.5 miles/second (roughly 1/10,000 of light speed)
- Circumference of Earth's orbit = 584,066,876 miles (roughly 1/10,000 of a light year)
- Diameter of Earth's orbit = 185,914,261 miles (roughly 1,000 times spatial component of light speed)
- Equatorial rotation velocity = 289 miles/second

107.

Maybe we need to distinguish between spatial and temporal objects or effects. For example, let's take a mass. The mass itself persists through time, whether it is in motion or not. If we were to freeze time, the mass would essentially be unchanged. It exists at any given moment, such that if we were to isolate one moment, it wouldn't really differ in any way from the identical mass in other moments. Now let's suppose that the mass is a magnet, and this magnet is in the process of attracting a piece of metal. If we were to freeze time as above, the physical magnet itself would be unchanged. But it would no longer be magnetic. There should be no way to tell that the magnet was attracting the piece of metal.

What I'm trying to demonstrate by this is that any given mass or object can have both purely temporal and purely spatial characteristics. The property of the mass of the magnet needs no time in which to persist, or to operate, or whatever. But the property of the magnetism of the magnet exists solely in time. It is a purely temporal characteristic. Likewise with gravity. Neither gravity nor magnetism exist in space.

Supposedly. I mean, you could insist, like Einstein, that gravity is curvature of space. In which case, if you were to remove time, gravity would still be there, as it would be a purely spatial characteristic or property. Likewise with magnetism, if there is such a thing as a magnetic field. I'm not trying to dispute that with this passage. I'm merely trying to demonstrate what I mean by the concept of purely spatial and purely temporal characteristics of an object.

Further note. When I say that magnetism wouldn't exist in the absence of time, in space alone, the reason I say this is because magnetism causes motion. If it attracts a nearby piece of metal, it is inducing motion in the metal. Motion cannot exist in the absence of time. Freeze time and consider space by itself, and there can be no motion. That is why I say magnetism is a purely temporal characteristic. The same with gravity.

108.

Maybe time and space are not intertwined. Maybe time does not permeate space. Maybe time and space alternate, like a wave. Time is sandwiched between two spaces; time separates space. Time, space, time, space, ad infinitum.

109.

Here's another thing about relativity which I find objectionable. I'll quote from the book *Relativity and its Roots*, by Banesh Hoffmann, page 94. "We have already seen that no matter how fast I move, the light waves will always move relative to me with the same speed. Therefore, since I shall never be able to catch up with the light waves, you will see me trailing behind them. So, no matter how hard I try, I shall not be able to speed up so as to move relative to you—or to any other unaccelerated observer—with a speed as great as that of light."

I understand the part about not being able to catch up with light no matter how fast you go, like the well-known nightmare where you're running down a hallway and the other end continually recedes from you no matter how fast you run toward it. But assuming the other end of the hallway behind you doesn't likewise recede, you will still be accelerating away from it at a greater and greater rate.

So if I'm chasing after light by continually accelerating, even though the light always moves away from me at 186,000 miles per second, I should still be continually accelerating away from an observer behind me, eventually even reaching speeds greater than that of light, as measured by the observer. I know. You object that the observer behind me could never measure such a greater-than- c speed, since he would have to use light to do so. But still. If you don't allow that I can continually accelerate and eventually reach greater than light speed relative to a rear observer, then the only alternative you have is that I'm slowing down as I'm speeding up, which is absurd. In other words, the faster I go, the less space I cover. Which, the relativist would say, is exactly what happens, since my length contracts in the direction of my motion. So there's no problem here, the relativist says. But there is. Because if I continually contract in the direction of my motion, by the time I reach 99.9% of light speed, then I will have very nearly zero length. So even though I'm going faster and faster, eventually I will cover almost no space at all. In which case there is no sense in which I can be said to be "moving." So as I'm accelerating, I'm coming to a halt. Which is absurd.

110.

In *Relativity and its Roots*, by Banesh Hoffmann, on pages 97-99, the author explains relativity's

method of synchronizing clocks in a reference frame. This is the perfect example of why I think relativity is bunk. It's the crux of my disagreement with relativity. Because, as demonstrated in Hoffman's description, the motion of the rocket is actually being detected by the unequal travel times of the light pulse. One of the fundamental postulates of relativity is being violated. But that's okay. Because there's a simple method for this, which involves adjusting the clocks at each point in the rocket, so that the violation disappears and relativity remains sound. Relativity is proven false, but the clocks can be adjusted so that the unequal travel times of light disappear. The motion of the rocket is detected using light, violating both Galilean and Einsteinian relativity, but we simply adjust our clocks and voila, the violation disappears!

But it doesn't really disappear. Because it shows up again when the rocket's observer looks at the light in another rocket. Wow! That rocket's clocks give a different reading than mine. Therefore simultaneity is relative.

The whole situation is absurd. Absolute motion is detected, but since relativity seeks to deny absolute motion, it performs the trick of "adjusting the clocks in the reference frame" so that the absolute motion disappears in that reference frame. But it shows up again when comparing a second reference frame to the first, because the absolute motion never really disappeared; it was merely hidden. But relativity claims that this reappearance in the second frame is proof that simultaneity is relative, and thus validates relativity. Relativity is simply a trick to move absolute time and space into "the other" reference frame. It saves us in our reference frame from having to accept and deal with the consequences of absolute space and time, by moving absolute space and time into an outside reference frame.

I quote a sentence from the book: "According to the clocks, the outward journey of the light took 4 billionths of second and the return journey only 2. I conclude that clock C is not synchronized with the clock at O. The adjustment needed is simple. I turn back the 'hands' of clock C by 1 billionth of a second. According to the clocks, the outward and return journeys of the light will now each take 3 billionths of a second."

That's laughable. The physical journey of the light is unchanged. Do relativists actually believe they can alter the time it takes light to travel one leg of its journey? Come on. You've changed absolutely nothing other than the reading on a clock. You're adjusting the clocks so the round trip journey appears to take equal times on each leg of the journey, but you're not altering the physical fact of the unequal times on each journey. In other words, you may be altering the reading on a clock, but you're not altering time itself by adjusting your clocks. This is sheer foolishness, and this disproves relativity as having any validity in actual, physical reality.

Relativity is shown to be false from the outset, by it's own admission, but it claims to save itself by a clever sleight of hand. But it's really not clever at all. What it is is astounding that so many supposedly intelligent people have "bought in" to this trickery.

Try doing this with stopwatches. To do this with stopwatches, it requires that you set one of the

stopwatches to run a billionth of a second behind the other. You set the stopwatch in the forward direction of motion to run a billionth of a second behind the rearward stopwatch. Why is this acceptable? These are scientists, measuring a detectable effect, but altering their measurements so the effect disappears. Why is such a “fudging” of the data acceptable in relativity, when it would be cause for outrage in any other aspect of science?

111.

Matter does not move relative to space. Michelson-Morley sought to show that matter (rather, light) was moving relative to absolute space or the aether. But *nothing* in the universe moves relative to space. You shouldn't be able to detect motion relative to space because it doesn't exist. The best that might be said is that matter moves relative to its position in the space of a moment ago. But in any given instant, nothing moves. Not even the previous position of an object changes. From one moment to the next, all that changes is the object's position relative to its previous position. Time changes, and in that instant of time, the object's position may be different than in the previous instant. But in each instant, the object's position relative to space in that instant does not change. All that changes is its position relative to the space in a previous or future instant.

112.

I've probably already said this elsewhere in this notebook, but just in case I haven't, let me say it now. I do not doubt that relativity is mathematically consistent and that there is a certain sense in which relativity is absolutely correct in its postulates and assertions, such as length contraction, time dilation, etc. These are all true, and are geometrically correct deductions. But while I believe relativity is a valid theory, I believe it is only true mathematically. I do not believe it is a correct representation of reality; it does not extend from the realm of mathematics into nature. Relativity is an illusion; it has no basis in nature.

This stems from the fact that I don't “buy in” to relativity's practice of saying it's just as correct to measure the path of a light beam relative to a rocket or a train, or to an outside observer measuring the same beam. That is, I don't believe the two measurements of the same light path are equally valid. I believe there is an absolute frame against which to measure all motion and position, whereas relativity does not. And I am not here referring to an “aether.” I am referring to absolute space. I firmly believe there is an absolute frame of spatial reference. Thus, my belief is at odds with the most basic assumption of relativity.

113.

Let me point out a glaring inconsistency in relativity, or perhaps a hypocrisy.

The special theory of relativity tells us that we must synchronize clocks in the same reference frame. In the case of the moving rocket, clocks in the fore and aft sections will be out of synch, since, if not properly synchronized, one will show that light takes more time in traveling to the front of the rocket than in traveling to the rear. This is at odds with the postulate that the speed of light is the same for all observers, regardless of motion. So, we must set the forward clock behind the aft clock. They are thus said to be synchronized, and the insistence on the constancy of the speed of light regardless of motion is preserved, even though it's actually been shown to depend on the state of motion.

In the general theory, in a uniformly accelerating rocket, the fore clock and the aft clock are seen to be out of synch, but this is okay. It's merely the red-shifting or the blue-shifting of the light. No need to change either of the clocks in order to compensate.

So: both the special and the general theory acknowledge that motion has an effect on the speed of light as measured by an observer in motion. But the special theory covers it up by resynchronizing the clocks, while the general theory lets it stand. This is because the special theory is a theory of the relativity of simultaneity and the constancy of light's speed for all observers, while the general theory is a theory of gravity and the equivalence of gravity and acceleration.

And that's the inconsistency, or the hypocrisy. Light is affected by the observer's motion in both cases, but the special theory can't let the effect stand, so it sweeps it under the rug by adjusting clocks, while the general theory needs to allow that light is affected by gravity and, thus, motion, so it lets the effect stand.

The general theory disproves the special theory, but Einstein covers up the disproof by fiddling with the clocks.

What scientist worth the title would allow a fellow "scientist" to twist the outcome of an experiment by adjusting a key measuring instrument so that the experiment gives the desired outcome? "Oh, look, the experimental results disprove my hypothesis. But wait. All I have to do is pull out my trusty pencil, erase the data, write in favorable data, and viola! The experiment proves my hypothesis." Ridiculous.

114.

So in the fallacious worm hole time travel thought experiments that Stephen Hawking and others love to wax poetic about: how is it that the two ends of the wormhole are temporally "out of synch" even though they're in the same time period and reference frame when they're reunited? And how is it that the stay-at-home person will travel into the past when he steps through the wormhole, whereas the person that traveled with the wormhole will step into the future (according to science.howstuffworks.com)? Apparently there is some sort of "time debt" that exists between the wormhole mouths, and, by extension,

the two twins in the famous twins paradox, which Stephen Hawking touts as another version of the whole wormhole time travel thing. Some sort of “temporal gradient” is established, which does not go away. And somehow the wormhole “knows” which person has which sort of debt, because it “knows” which person will go into the future and which into the past.

And apparently this “time debt” is not affixed to one particular moment in time. It advances as time advances. For example: if the wormholes are reunited, and I was the stay-at-home, if I step through wormhole, I will step through into a time, say, forty years earlier. But if I wait an hour, then I will step through into a time one hour later, forty years earlier. So the difference in time between the two mouths is always the total difference in the passage of time due to time dilation during the voyage, as determined after the two mouths are reunited. Thus is 100 years have passed for me, while only sixty years have passed for the traveling mouth, then there is a “time debt” of forty years. So that whenever I step through the mouth, I will step from the other mouth forty years in the past, relative to whatever moment I step through the mouth. Even though, when I step through the mouth, the other end of the wormhole, the other mouth, is “co-temporal” with me. Physically, both ends of the wormhole are in the same time as me, but somehow, when I step through the wormhole, I am magically transported forty years into the past, due to the “time debt.” I step out from a different mouth, a mouth other than the one that was physically “co-temporal” with me. The very idea is ludicrous. Why is one end not connected to the other end, which, after the journey, is now in the same place at the same time? Both ends are together again, but somehow, each end is connected to an end in the past or the future.

This relationship must be symmetrical. Call wormhole mouth A the stay-at-home wormhole, and B the traveling mouth. After they're reunited, if you step through A and step out of B in the past, then you must likewise be able to step through B and step out of A into—what? The present? The future? Remember this question.

Forgetting the wormholes. If we accept the wormhole nonsense, then what is the nature of the “time debt” between the reunited twins in the twin paradox? Since the wormhole nonsense shows that some sort of actual physical dislocation has occurred between the two wormhole ends, then there must be a similar sort of dislocation between the two twins, other than the physical age difference. If it were only a physical age difference, then one end of the reunited wormhole mouths would be younger than the other, but they would not lead to separate times. One would merely be physically younger than the other, as with the twins. So if we accept the nonsense that the reunited wormhole mouths lead to different times, then something other than a physical age difference exists, something in addition to a physical age difference. So what is this addition? How does it manifest itself in the twins? Does the younger one continue to experience time at a slower rate, so that the stay-at-home twin, from the viewpoint of the traveling twin, seems to move at lightning speed, and speak at a breakneck buzz? Kind of like the accelerated people in the *Star Trek* episode, “Wink of an Eye”? If you accept the notion of wormhole time travel, then you *must* accept that there is an additional difference other than a physical age difference

between the twins.

So back to the earlier question: when you step through wormhole B, do you step out of A in the present or the future? I would think that the traveling twin, at least, would step out into the present, but the “additional difference” would be canceled out. That is, his experience of time would now be the same as the experience of his twin. He would still be physically younger, but he would no longer see his twin as moving at lightning speed. But what would happen if the stay-at-home twin stepped through wormhole B? Would he become accelerated, so that he experiences time at a faster rate? Or would he step forty years into the future?

I tend to think that he would become temporally accelerated.

If you think this whole wormhole time travel nonsense through, then I think you have to draw the conclusion that, rather than mouth A leading back to mouth B of forty years earlier, passage through either end of the wormhole would cause one to become “time dilated,” the direction of the dilation depending on which mouth one stepped through. Thus, wormhole time travel is not time travel at all, it is actually wormhole time dilation.

Here’s the explanation from wikipedia.com:

Time dilation causes the end of the wormhole that has been moved to have aged less than the stationary end, as seen by an external observer; however, time connects differently *through* the wormhole than *outside* it, so that synchronized clocks at either end of the wormhole will always remain synchronized as seen by an observer passing through the wormhole, no matter how the two ends move around.^[25] This means that an observer entering the accelerated end would exit the stationary end when the stationary end was the same age that the accelerated end had been at the moment before entry; for example, if prior to entering the wormhole the observer noted that a clock at the accelerated end read a date of 2007 while a clock at the stationary end read 2012, then the observer would exit the stationary end when its clock also read 2007, a trip backwards in time as seen by other observers outside.

So, just as I’ve said, even though the two mouths are side by side in the same time, they’re not spatially connected. How does this disconnection come about? Time dilation, supposedly. As noted by wikipedia, whatever the clock outside the mouth you enter, that’s what time you’ll emerge from the other end.

Let’s trace various trips through the wormhole. We’re assuming one mouth has been taken on it’s near light speed journey and returned to it’s twin back on earth, where the clocks are now found to read 2007 on the accelerated end, and 2012 on the stationary end.

I'm the stay-at-home observer. I enter the accelerated end, 2007. I come out the stationary end in 2007.

Reset the example to where I have yet to step through. I now step through the stationary end, 2012. I come out the accelerated end in 2012. The same time I left.

All well and good.

Reset. I now wait three months, so that the stationary end reads 2012 and 4 months. I emerge from the accelerated end in 2012 and 4 months. The same time I left.

Reset. I again wait four months. I step through the accelerated end, 2007 and 4 months. I find myself in the rocket, 4 months into the journey, 2007. Since there is no other wormhole end to enter now, I immediately reenter the wormhole. I step out of the stationary end on earth, 2007 and 4 months.

Okay. So using the example from wikipedia, everything I was ranting about above, regarding the "additional difference," becomes unnecessary, because the travel through the wormhole from either end seems consistent, even though I still don't agree with the mouths not connecting to the present. There's still a "loose mouth" somewhere in the loop, one mouth connects to the present while the other connects to the past.

But when Stephen Hawking details the wormhole time travel, inconsistencies emerge. I quote from his book *The Universe in a Nutshell*, page 137: "Because of the twins paradox effect, when the spaceship returns, less time has elapsed for the mouth it contains than for the mouth that stays on Earth. This would mean that if you step into the Earth mouth, you could come out of the spaceship at an earlier time."

So Stephen Hawking's example contradicts wikipedia's example, which required the clocks at both ends to be synchronized. Thus, in Stephen Hawking's example, if I step through the stationary wormhole at 12:00 (his example) I would emerge from the accelerated mouth in the past, at 10:00. But going by wikipedia's example, I would emerge from the accelerated mouth at 12:00. So we have a contradiction here. Since Stephen Hawking is a renowned and supposedly extraordinarily gifted physicist, I would expect his example has more authority behind it. In which case we're back to my rant above, regarding "time debt" and the "additional difference."

But let's pretend wikipedia's example is correct, since I'm now noticing that I made an error in my example above. I enter the stationary end in 2012 and emerge from the accelerated end in 2012. According to wikipedia, I would emerge from the accelerated end when the accelerated clock reads 2012. Since, when I stepped through the stationary end, the accelerated end read 2007, then the accelerated end's clock won't read 2012 for five more years. So, if I enter the stationary end in 2012, then I should emerge from the accelerated end in 2017 by the stationary clock. So, by stepping through the stationary end, I'm traveling five years into the future.

So there is much conflict here. According to wikipedia, if I step through the stationary end, I will travel into the future. But according to Stephen Hawking, I will travel into the past.

I think Stephen Hawking has the correct version. Wikipedia's version appears to contradict itself. Even though the part about the clock at the exit wormhole reading the same as the clock at the entrance, when you step through, seems to be reasonable. But that leads to contradiction with Stephen Hawking.

But in any case, I've talked myself back to my original point here. Neither the Stephen Hawking example nor the wikipedia example, whichever you choose, negates my earlier argument. I suspect even the Stephen Hawking example leads to the same result as the wikipedia example, the only difference being which end leads to the past and which to the future, relative to the reunion of the wormholes after their separation. We're back to my "time debt" and "additional difference" here. So just forget I wrote all that later bit. I conclude that wormhole time travel doesn't exist; at best it can be wormhole time dilation. And even that is ridiculous.

Let me go back to the Stephen Hawking example. If we enter the stationary mouth, we travel back to the past. If we then turn immediately around, we should exit the stationary mouth in the same time we entered it. In other words, the journey should be symmetrical: enter the stationary mouth, travel back to the past, turn around and enter the accelerated mouth to return to your starting time. So then what is the result if we enter the accelerated mouth? Do we exit the stationary mouth in the present, the same time we entered the accelerated mouth? Or do we travel to a future stationary mouth? You'll recall this was my original question. The question pertained to this "time debt." I guess the question is, if there's, say, a forty year difference between the clock readings, does the stationary mouth lead to forty years in the past and the accelerated to forty years in the future? Which is what the whole wormhole time travel thing seems to be implying, and why scientists like Stephen Hawking are so excited about it. But even if only the stationary end leads to forty years in the past, I still do not think it a valid notion that time actually gets "out of synch" in that manner when one undergoes a time dilation. If indeed the wormholes do get "out of synch," then this is an effect in addition to a simple discrepancy in the age of the twins or the wormhole mouths. This led to my assertion that wormholes should actually be a way to dilate the experience of time's passage for whoever traverses the wormhole, rather than resulting in actual time travel.

The result of this would be that, in the twin paradox, when the twins are reunited, one will not only be younger, but he will also continue to experience time dilation, even though he is at rest relative to the other, older twin. All of which demonstrates, I believe, that wormhole time travel and the twins paradox are both ridiculous and non-existent.

And let's not forget that this all arises from relativity's tinkering with the clocks to mask the fact that all observers in fact do not measure the same speed for light regardless of their motion. An observer in motion only measures the same speed for light because he "synchronizes" his two clocks by setting the forward one slightly behind the rear one. So, the very notion of time dilation is bogus from the outset, rendering the wormhole time travel thing into nonsense. I don't believe in time dilation, and even if I did, I wouldn't believe that two twin wormhole mouths would be temporally asynchronous upon their reunion.

115.

So if I'm in a uniformly accelerating rocket, then each second I will have to adjust the forward clock backward a constant amount. But if I'm in a non-uniformly accelerating rocket, then I will have to adjust the forward clock backward by an amount that increases each second. This differs from a rocket in uniform motion, where the clock only has to be adjusted once. In other words, in an accelerating rocket, the clocks have to be resynchronized each second, whereas in a uniformly moving rocket, they only have to be synchronized once, provided the rocket doesn't accelerate.

116.

See, I have a problem with the claim of relativists that the eclipse of 1919 proves relativity's assertion that gravity is due to a curvature of spacetime. All the eclipse actually proves is that light is affected by gravity. It's invalid to take that a step further and say that gravity is due to curvature of spacetime. The eclipse gives the result that "the apparent positions of stars are shifted from their actual positions when the sun is between us and those stars, as if the light is being bent." It seems that light behaves similarly to any other mass that whizzes past the sun. Trajectories are altered. How does the fact that light is bent by gravity prove that gravity is curvature of spacetime? Shouldn't we be more surprised if light behaved unlike every other thing, and was completely unaffected by gravity? Why should we say, "Light is bent by gravity, therefore gravity must be curvature of spacetime?" The conclusion of curvature doesn't necessarily follow from light being bent by gravity. Spacetime curvature can at best be only an alternative explanation. We can say that light is affected by gravity, or alternatively that light follows a curved path through spacetime near a large mass. It is not a case of *this* therefore *this*. So no, I refuse to accept the eclipses as proof of relativity. The eclipse is *consistent* with relativity. It's also *consistent* with light being affected by gravity. It doesn't *prove* that spacetime is curved. Those are the words that scientists fallaciously toss around regarding the 1919 eclipse: proof, confirmation. When in fact the eclipse is neither proof nor confirmation. It is merely *support*, you dolts. Relativity is *supported* by the eclipse; the eclipse is *consistent* with relativity. Don't mislead the public.

117.

Two experiments I will do:

1. Using cell phones. Call someone on the east coast. Use stopwatch. Start stopwatch when I say, "One." Person on other end says, "Two," as soon as he hears me say, "One." As soon as I hear him say "Two," I say, "Three." Continue this up to ten, and then stop stopwatch. Calculate time taken between one

and ten. Then reverse. Person on east coast says, “One,” I say, “Two,” etc. Calculate time taken between one and ten. Compare to first reading.

This is to see if there’s a difference in the time of the signal in going from east to west and west to east, the difference due to the earth’s motion.

This could also be done using ham radio operators.

(Note: Above didn’t work. I tried it with my brother Mike, but there was too much hesitation in each of us saying the numbers. No possibility for any sort of accuracy. The whole notion was ridiculous to begin with).

2.Using a spectrometer, analyze the light from all sides of a bulb. My idea is to place a naked bulb at the center of a very large (perhaps warehouse sized) room, and then take readings from all around the bulb from the edges of the room.

This is to see if there’s a red shift or a blue shift depending on where the reading is take relative to the bulb. I want to see if there’s a blue shift in the reading taken in the direction of earth’s motion, and a red shift in the reading 180 degrees opposite.

118.

Connection?

Quantum mechanics—No interference pattern builds up when you monitor slit in double slit experiment.

Michelson-Morley/Relativity—No fringe shift is detected when you monitor light.

119.

What makes us move through space? Answer: we are pushed. What makes us move through time? Answer: —? Are we somehow being pushed through time?

120.

Think of the extremes of my “distance X” notion. If the distance X is the distance light can travel between one instant and the next, or during an instant, then it is at the “fast” extreme of the distance X concept. Light and all its strange properties are the result of being at the “fast” extreme. What would be at the “slow” extreme? This would be the extreme where perhaps an object doesn’t move at all. What sort of properties or effects might be associated with something at the “slow” extreme?

121.

Here's something that shows how Einstein's method of synchronizing clocks is meaningless and really says nothing about time: Einstein says that a clock in the forward section of a uniformly moving ship should be set "back" a bit relative to the clock in the rear section of the ship. For example, if the rear clock reads 2:00, the forward clock would be set to 1:59. Or whatever. So that the speed of light comes out the same on both legs of the journey fore and aft. But suppose we use clocks that merely blink, or make a noise, when a second has elapsed. What do we do then to synchronize? Set the forward clock back by two blinks, or two noises?

What I'm saying is that Einstein's synchronization only works if the clocks measure a man-made time reference, like 12:00 PM or 1:00 AM. But using clocks that only measure the generic passage of duration cannot be synchronized by Einstein's method, and reveals that Einstein's synchronization trick doesn't actually work. His method merely plays around with a man-made marker, moving it forward or backward, but it does nothing to the actual, underlying time, the duration. Time still ticks along exactly as before, and one leg of the light's journey takes less time than the other. Einstein's sleight of hand with the clocks is shown for the superficial trick that it is.

The generic ticking of a clock is the true time. Whether we call 1:00 Noon or call 6:00 AM 6:00 PM, the clock steadily ticks on. Anything other than the "tick tick tick" is man-made marker with no real meaning. And even the "tick tick tick" is man-made, in a way. It's only the duration between the clicks that matters. If we have two clocks, and each ticks half-way between the other's tick, they're still "in synch" if the duration between each of their ticks is the same.

122.

Solid light. Molded light. Liquid light. A sheet of molded light.

Solid light has all the properties of normal light, except that it doesn't move. It "always shines" but doesn't move, and can be shaped like glass. Unlike a true solid, it has no atomic structure and probably no mass. If you touch it, you'll feel a slight resistance, but your hand will pass through it.

You don't create the light solid by slowing light in the traditional sense. You sort of crystallize the light, you sort of "freeze" it into a solid. Like precipitating a compound out of a solution.

123.

Does temperature affect the speed of light? The temperature of the vacuum? Maybe gravity doesn't bend the path of a light ray. Maybe the temperature of space near planets or stars is higher than in deep

space, and light travels slower in a hotter space, so it bends near stars and planets. In other words, maybe the temperature of the aether or whatever is more dense at higher temperature, and so light travels more slowly through it. Maybe a lower density aether is a better conductor of light.

124.

Things Einstein didn't know:

Why nothing can travel faster than light. Sure, some would claim he explained why, but he didn't really. He stated it, he assumed its truth, then went on to explain what happens as something approaches light speed. But he never explained why light can't travel faster than the speed it does. I explain it by "the Distance X" concept.

How time and space are connected, so that a warpage of space will also warp time. I don't offer an explanation of this, since I don't really believe in time dilation and space warps. But Einstein never explains precisely how they're connected; he merely asserts that they are, and goes from there.

Now, in the following section, I'm not going to bash relativity. I'm going to assume it's true, and try to work out some consequences. I'm also assuming the Big Bang theory is true.

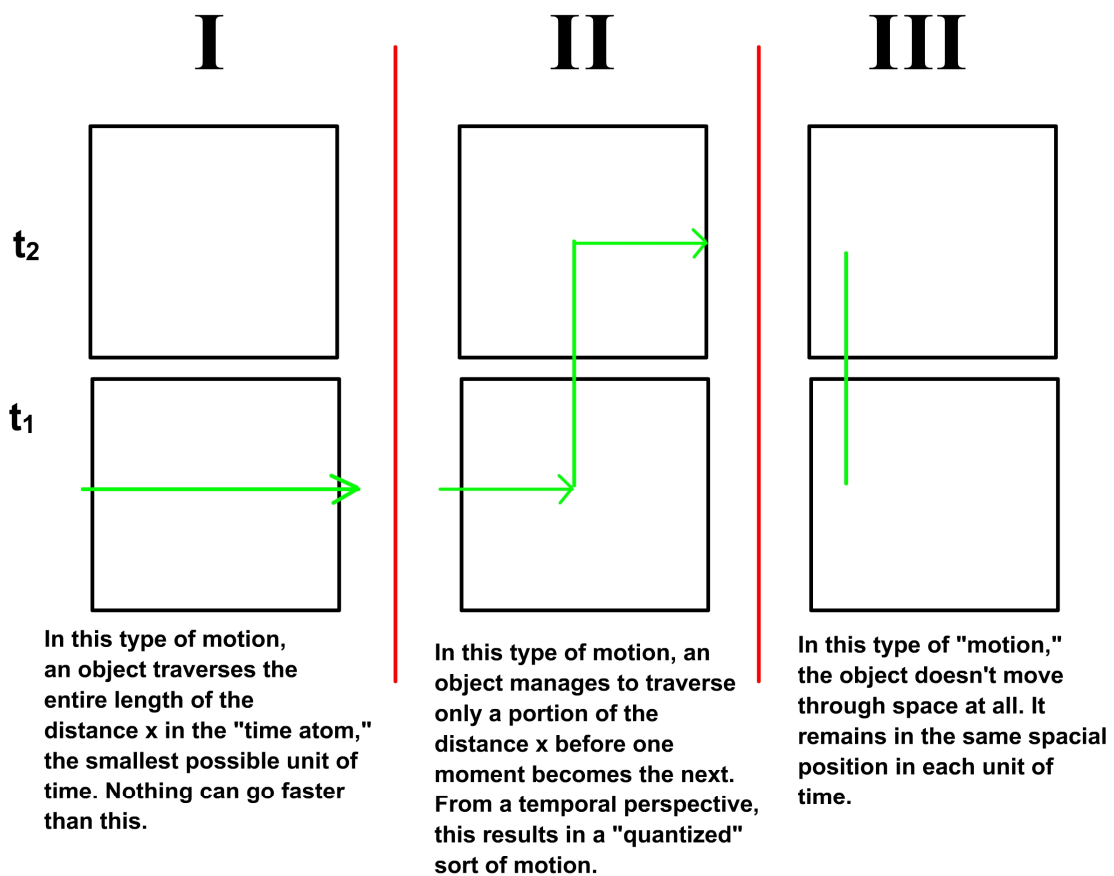
Now, all matter in the universe exerts a pull on all other matter, such that I and Earth experience the pull of a star at the other end of the universe (according to both Newton and Einstein). Let's pretend a star suddenly appears in an empty tract of space at the far end of the universe from me, and then continues about its business as if it's always been there, behaving as a normal star would. When the star appears, spacetime is warped. Let's picture it as a little dent in a flat surface. This dent, in order to be felt by me far across the universe, must immediately go rushing across the universe at the speed of light (since gravity, according to Einstein, propagates at the speed of light). It reaches me after a journey of millions or billions of years, from my perspective, and I sort of "fall" into it. Now, is this dent more like a dip, where space curves "inward" and then back "up" again, so that we merely have a little "dip" in space? Moreover, consider this: The star which birthed the dent is receding from me according to the Big Bang, so that this dent should feel the effects of its birth star's recession. Each second that passes, the dent should be receding from me, while at the same time the newly dented space should be propagating toward me. (Sorry, I hope this concept is clear). That's all I have on this right now; I just wanted to get it down in writing for further pondering.

Now, let's assume that time dilation is correct, and that my concept of "the Distance X" is correct as well. If time "dilates" or "goes slower" in a particular region of space, would that mean that in each moment of time, compared to another region of space, an object within that region would "have more time" to cross the Distance X? That is, compare two regions of space, one time dilated more than the other. Is an object within the region with greater time dilation able to cross more of the Distance X is a

given instant? And further, does space within the greater time dilation "shrink," further extending the distance the object is able to travel in a given instant?

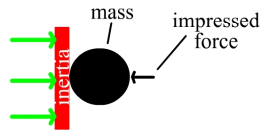
Just food for further pondering.

Each of the boxes below represents a moment of space and time. Each box is a "slice" of space representing "the distance x ," which I call the greatest distance that an object may travel during the smallest moment of time. Given the distance x , there are three types of possible motion through time and space.

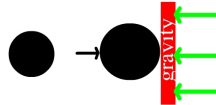


5-24-2010

Let's consider gravity and inertia separately.

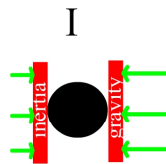


Inertia seems to be a force that shows up whenever a force is impressed on a mass. Inertia opposes the impressed force. To make the mass move, the impressed force must be greater than the opposing inertial force.

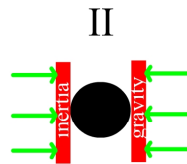


Gravity seems to be a force that shows up whenever a mass is in the presence of another mass. Gravity opposes an impressed force. To make the mass move against gravity, the impressed force must be greater than the opposing gravitational force.

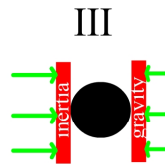
Now let's consider gravity and inertia together. There are three possible situations:



The inertial force is less than the gravitational force. Movement results.



The inertial force and the gravitational force are in equilibrium. No movement results.



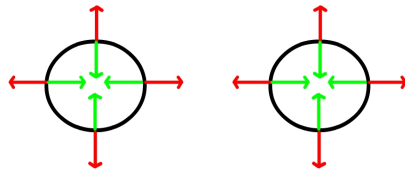
The inertial force is greater than the gravitational force. No movement results unless I impress a force.

Perhaps situation II is the default situation in nature. Situation I arises when a mass is in the presence of a greater mass. My contention is that inertia and gravity are like the "positive" and "negative" charges in the electrical and magnetic forces. The gravitational force in one mass is attracted to the inertial force in a separate mass.

Questions to consider:

What gives rise to the inertial force? Perhaps a connection to absolute space?

Can Maxwell's equations be applied to this concept of inertigravtism?



An alternate representation might be where one force is directed inward, and the other force is directed outward. Thus each mass has two poles, one characterized by an outward directed force, and one characterized by an inward directed force. In the above illustration, when the two masses are in close proximity, the red arrow of one connects to the green arrow of the other, and vice versa. Whether the inward force is inertia and the outward is gravity, or vice versa, has yet to be determined.

Here is a possible mechanism for how light works. Recall what I've written earlier about how we never detect light as it actually travels through space; we only detect light when it "hits" some sort of detector, such as an eye, an object, etc. Light doesn't actually travel through space, I've written, and I've also speculated that light's speed is relative to an atom.

So here it is: light *doesn't* travel through space, and light *is* relative to an atom. Let's suppose we're once again on Einstein's famous rocket. We've got a light source in the front of the cabin, and an observer in the rear of the cabin. The light source is thus stationary relative to the rocket and the observer. The light source emits a pulse. Now, the conventional wisdom before Einstein was that the observer in the rear should see the pulse traveling toward him at the velocity of light + the velocity of the rocket, meaning he would see the light traveling faster than an observer stationary relative to him.

Here is my point: the light does not travel through space toward the observer in the rear of the rocket, nor toward the observer stationary relative to the rocket. Rather, the atoms in the source undergo a change, which the observer's eyes somehow register and interpret as light. So there is no "light ray" or "photon" that travels across intervening space toward any observer. The atoms in the observer respond to the change in the atoms of the light source. This response happens between one instant and the next. This is where my concept of "the Distance X" comes in. 186,000 miles is the spatial equivalent of the smallest instant of time. The actual distance may be 1.86 miles, or whatever, since the smallest unit of time is most likely much less than 1 second. So you have a change in the atoms of the source, and the next instant, you have a response in the atoms of the observer's eyes. Since 186,000 miles, or 1.86, whatever, and 1 second, or whatever, separate these two events, we interpret this by believing that a light ray or a photon has traversed the space between a source and a detector.

Here is where the constancy of the velocity of light regardless of the state of motion of the observer comes in: every observer, regardless of their state of motion, will experience 186,000 miles, or 1.86, whatever, between the change and the response. So both an observer in motion and an observer at rest relative to a light source will interpret the light as having traveled at the same speed.

The question, then, is this: if the detection and the response are, for all intents and purposes, instantaneous, why, then, is not the light from a very distance source not detected at the same time as the light from a nearby source? If the light doesn't travel through space, why does the distant source behave as though the light has traveled a greater distance? I'm still pondering this question. I literally just came up with this concept, and am writing it down to preserve it.

Another obvious question is: how exactly are the atoms in the source connected to the atoms in an observer, so that the "outside" atoms can detect the change in the source? This is like the "action at a distance" concept of Newtonian gravity. How is the gravitational influence felt by two masses if there is nothing to propagate the gravity?

126.

One view of inertia says that it results from the following: say we have a sphere, and I push it with my index finger. At the point of contact between the sphere and my finger, the atoms that make up the sphere are pushed forward. The surround atoms remain in place so that they “tug” briefly against the moving atoms, and are then pulled in the direction of force along with the atoms that I’ve pushed with my finger. Inertia is then viewed as resulting from a sort of “slack rope going taut,” similar to a bike connected to a wagon by a long, slack rope. When the bike begins moving, it moves forward freely, until the rope goes taut and the weight of the wagon is then added, so that more force is required to move the bike forward. What we call inertia is thus the result of having to add to our initial force, seconds after having applied the initial force, in order to compensate for the delayed additional mass of the atoms that didn’t receive the force directly. This is one view of inertia.

Now, suppose we have the situation as above, but with a perfectly rigid sphere. That is, the atoms of the sphere are so tightly bonded that there is no “slack” between them. If I push on the sphere with my index finger, distant atoms feel that force instantly. There is no need to increase the force seconds after I begin pushing on the sphere in order to compensate for the additional mass of the distant atoms.

The question under consideration here is: if inertia is solely due to this “tugging” effect as distant atoms are pulled after the force-receiving atoms, would I experience an inertial resistance when trying to move a perfectly rigid sphere, or a perfectly rigid mass of any shape?

What about a perfectly rigid sphere as above, except that it’s diameter is several light years. If I push one small part of it with enough force to move it even slightly, aren’t the atoms of the sphere “distributing” the force to distant atoms at greater than the speed of light?

127.

An observer A in a rocket in motion and a stationary outside observer B. At the instant the rocket comes level with B, both A and B fire a pulse of light in the direction of the rocket’s motion. B’s pulse races alongside the rocket, keeping pace with the pulse inside the rocket. At some point the inside pulse will strike the forward wall of the rocket cabin. At this point, both B and A measure the length their pulses have traveled. B says his pulse has traveled the same distance the rocket traveled in the time between the firing of both pulses and A’s pulse striking the forward wall. A says his pulse has traveled the entire distance of the rocket’s cabin. Both measure the same speed for their light pulses. Clearly, the two light pulses have to have traveled the same distance. From A’s perspective, both light pulses have traveled the length of the rocket. From B’s perspective, both pulses have traveled the same distance as the rocket has

traveled. Both measurements say both light pulses have traveled the same distance, but disagree on the magnitude of that distance. But both A and B agree on the speed for both pulses.

What does this tell us? It tells us that the distance traveled by light is irrelevant. Light must not travel across space in the manner we think it does, and the methods by which we normally measure velocity of everyday objects cannot apply to light. Einstein claims that the above illustration shows that time is not constant. But what it really shows is that our standard concept of velocity does not apply to light.

128.

From Time and Space by Barry Dainton, page 279: “What the empirical data actually supports is the weaker hypothesis that, for any two locations L1 and L2, observers in all inertial frames will agree on the *round-trip* (Dainton’s italics—SR) speed of a light ray traveling from L1 to L2 and back again—the speed that results from dividing the total distance traveled by the time taken. But as Einstein himself recognized in his original 1905 paper, there is no empirical evidence that the one-way (Dainton’s italics—SR) speed of light is constant in all inertial frames; he simply regarded it as a reasonable assumption, and made it true by definition. There have been many subsequent attempts to devise experiments that would demonstrate that the *one-way* speed of light is constant, but thus far none has been successful.”

In fact, Einstein’s very own thought experiments regarding lightning strikes actually show that the one-way velocity of light is not constant. He conceals this by “synchronizing” his clocks, i.e. setting the hands of one clock back. **Relativity is complete bullshit, just as I’ve been saying!**

129.

I’m going to propose two categories or definitions of velocity. The first is **static velocity**, which is the “classic,” Newtonian conception of motion, namely distance over time. But since it fails to take the “continuous” nature of motion into consideration, I believe the classic definition is incorrect. Time is in the equation, but it is a “static” time, it is a “snapshot” time, a time that is frozen. Distance over time is merely a measure of the quantity of motion that an object possesses at a given moment in time, a moment that is a mere abstraction, a moment that doesn’t “flow.” I believe the second category that I propose is the correct version of velocity. The second category is **dynamic velocity**. Acceleration is one of the two subclasses of dynamic velocity. Acceleration is a change in the quantity of motion over time (see earlier writings for my concept of quantity of motion and how we need to redefine velocity). The other subclass of dynamic velocity is static velocity restated in dynamic terms. It is velocity where the quantity of motion is constant over time.

130.

If a wave exists only in time—if nothing ever travels through space—if by motion we mean that in one instant an object is located at *this* position in space, and in another instant it is located at *that* position in space—if we accept that nothing can travel faster than 186,000 miles per second—then we must ask, *why* can't anything travel faster than 186,000 miles per second? Even given my notion of “the distance X”—*why* should there be a “distance X”? If an object is located at position p in space in one instant, then in the next instant, why shouldn't it be able to be located halfway across the universe at position q? Why are we limited to position q being 186,000 miles from position p?

131.

Just watched an episode of Doctor Who this evening—“The Pandorica Opens.” There was a scene where a signal is sent out from Stonehenge, to “all moments in time.” Like a beacon. Except the queer thing was that the time signal was apparently only heard in certain moments, from that moment onward. The writers obviously saw no trouble in this. Science fiction shows and stories often center around such ridiculous notions when involving time travel and such in the story. Anyway.

The show got me to thinking. Suppose a signal is sent out, broadcast, as it were, to the temporal universe. As an analogy, think about a radio signal being broadcast from Earth in all directions into the universe. But suppose this temporal signal, broadcast widely, is only heard in certain moments (or received, whatever). For example, say the signal is broadcast at 10:00 PM on Tuesday, June 18th, 2010, for exactly five minutes, and then is cut off. It's received all across time, but only at certain moments, for a length of five minutes. For example, say it's received 10:00 PM everyday throughout all of time, at every location in space, and lasts for exactly five minutes. With the radio signal sent widely into the universe, you would expect the signal to propagate to all areas of the universe, eventually. Would the time signal not do likewise? Would we not expect such a signal to be heard at every instant throughout eternity, rather than at just 10:00 PM every day? My thought here is that, supposing we don't hear the signal except at 10:00 PM every night—would that mean that 10:00 PM, every 10:00 PM, is somehow related to the 10:00 PM from which the signal originated, but other moments are not so related? Spatially, the moment the radio signal is broadcast, Earth is spatially related to all other points in the universe that are co-temporal with Earth, a spatial relation that doesn't exist between the Earth at the moment the radio signal is broadcast and all other points in the universe *yesterday*. I hope I'm explaining this in a way that can be understood. It's a difficult concept for me to put into words. But what I want to convey is this: might the instants of, say, 10:00 PM of every day, all across the universe, be temporally related to one another in the same way that all points of space, NOW, are spatially related to one another? (Forget relativity for the moment, which claims that NOW is relative). So that, were a time signal to be sent from

10:00 PM, it would only be received at 10:00 PM of every day, rather than at every moment of time?

As another way of looking at it, let's suppose that I can travel instantaneously to any point in space. I'm on Earth, then BLINK, I'm halfway across the universe. Let's just ignore the specious present and say that, for all intents and purposes, I'm on Earth and halfway across the universe in the same instant. Forget violations of light speed, whatever. My point is that when I thusly transport across the universe, I'm basically transporting in the same space. I'm not transporting across the universe to five minutes ago. Yes, I'm assuming an absolute time. Then Earth and my location halfway across the universe are spatially related; the two points share a relation that doesn't exist between Earth and a location halfway across the universe of five minutes ago. Might there be a similar relationship between times? That's my whole point here. 10:00 PM of today and 10:00 PM of all other days throughout time might be part of the same "temporal slice," the same temporal universe. Such that 10:00 PM of NOW and 8:30 AM of every other instant in time wouldn't have the same relation, in the same way that Earth NOW and all other spatial points of 10 minutes ago have no spatial relation.

And in the above, the time interval of 10:00 PM and all other 10:00 PMs is arbitrarily chosen for my example. I'm not suggesting that this temporal relation has to be some sort of "mirror," like 10:00 PM NOW to every other past and future 10:00 PM, or 7:00 AM NOW to every other past and future 7:00 AM. It could be any sort of interval. I'm not implying some sort of diurnal, man-made interval.

Note that this idea was not explored or developed in the Doctor Who episode. It's merely a thought that occurred to me as the result of some stupid little bit of mumbo-jumbo absurdity in that episode. The episode had no intent of suggesting this idea; the idea above is wholly my own, it wasn't the intent of the show to suggest the idea I've outlined above; I'm sure it wasn't even in the minds of the writers, i.e. it had not even occurred to them.

It now occurs to me that perhaps the common man unknowingly believes in this sort of temporal relation between moments. There is the Star Trek episode "All Our Yesterdays" in which Spock time travels to the remote past, to a time before Vulcans had purged their emotions, and so he starts experiencing emotions. And there are numerous time travel-themed episodes of television shows, and movies too, where, if the person travels into the past and stays for, say, 24 hours, then when he returns to the future, 24 hours have elapsed since his departure for the past, as if there is some sort of mechanism, like a meta-NOW that spans all times and advances like the NOW of individual moments. "The Lake House" is a particular example of this that comes to my mind. Keanu Reeves sends a note into the past, Sandra Bullock receives it, and waits a day or more to respond, so that when Keanu Reeves gets the response, the same day or more has elapsed, where common sense would seem to suggest that there should be no reason for the same time period to elapse for Reeves as for Bullock. Common sense would say that even if Bullock took 24 hours to respond, Reeves could get the response the instant after he put his letter into the mailbox. So maybe most people actually have this sort of idea of a certain time having a correspondence with specific future and past moments which that certain time shares with no other

moments. I've always laughed at such ridiculous stories, because they seemed to me to indicate a misunderstanding of the nature of time. But perhaps there is some validity to the idea after all.

132.

Various written notes:

What if we assume that the light from a star “nearby” reaches us at the same time as a star “far away,” i.e. in one instant the star’s atoms change and in the next, we detect the changes. In no case does the actual distance to the star matter—the “speed” of light thus can’t be used to measure distance. Why and how is this emission measured as 186,000 miles? Doesn’t mean everything in the universe is 186,000 miles away, or 1.86 or whatever. Just that distance between source and detector is irrelevant.

Some sort of device that takes gravitational pull and “turns it around” so that it thrusts upward instead or at same time that it pulls downward, so that downward pull and upward push are in equilibrium—null gravity.

If objects weren’t separated by 1 billionth of a second...if “me” of NOW wasn’t separated from me of THEN by 1 billionth of a second, there would be duplicates of me spread all along the path of my motion.

Suppose all of the “Me’s” at every instant co-existed in the same instant (i.e we weren’t separated by 1 billionth of a second)—how could I be separate yet still be one with all the Me’s?

Figure out the connection between the instants of time—between the same object at different times.

Gravity as something that makes the separation less than 1 billionth of a second, or more than?

How does matter “evaporate” into energy? How is matter converted to a photon/light pulse? $E=mc^2$. Matter transmission.

Think upon why Earth’s orbit and speed are $1/1000$ of c . Might this be telling us something about light? Look at how orbit and speed are measured and how c is measured—compare. It can’t be coincidence. Must be indicative of something fundamental.

Assumption of relativity: Earth is in motion and not universe. Relativity depends upon this assumption, but forbids making it, so relativity invalidates itself.

Figure out time and motion NOW!

Michelson-Morley—expect a fringe shift, don't get one, deduce relativity. Double slit—don't expect interference, get it, deduce quantum mechanics. Connection between QM and relativity? MM equivalent to double slit/dual source?

Fringe shifts are created when light from 2 sources interfere. Therefore, in Michelson-Morley, expected fringe shift would be equivalent to having 2 sources, due to expected motion of source due to motion of Earth. It's like each path originates at a different source or so is expected.

Two types of motion. Motion through time only, motion through both space and time. Motion through space only is not possible.

Am I neglecting length contraction in this whole Doppler thing? In everything? Is that why I don't accept relativity? No, because I don't accept length contraction as a physical reality.

Relativistic Doppler can only be like a stick being run across an iron fence—the distances between the bars are always the same. The only difference is how fast you run the stick across the bars. In a classic Doppler, the bars would be scrunched closer together on one end and further apart on the other end.

Assumption of Big Bang theory: light doesn't lose energy over vast distances; light from 4 light years away has same energy as light from 4 million light years away. What is the experimental justification for this assumption? Newton's first law of motion. Tired Light. Why *wouldn't* light lose energy over great distances? Counterintuitive.

Time resolution—if the atom of time were 41 years rather than 1 attosecond, my entire life would be one motionless solid.

Measuring c should be a way of accurately measuring Planck time and length. $L_p/T_p = C_p$

Faraday—a separate aether for every atom.

Possible ways to affect the past.

At a certain length, light must exist as a motionless solid. Light the only thing that truly moves?

This is the main place at which relativity goes wrong: the light pulse here keeps pace with the source (which moves in x direction) even as pulse moves in y direction. It's moving along with the source; it is not behaving independently. Relativity says light is independent of its source, then outlines thought

experiments in which light isn't independent of its source. This is to keep Galilean relativity that this experiment is the same regardless of your state of motion.

Try to come up with some testable experiments that is true only if Earth is not moving, or is at center of universe.

Magnetic and electric polarity are some sort of Doppler effect. But since we are stationary relative to them and the orientation can change, it must be a Doppler due to some strange, unidentified sort of motion, some form of motion we're not familiar with. Think of man hearing source of sound on moving platform, changes his position on platform relative to source.

How is each moment connected to other moments? How does time "flow"? These are the two remaining profound mysteries. Solve it and everything will be made clear.

What are gravity and electricity? Are they forces, things in their own right, or are they effects of time, space and motion?

Are atoms the interface, the fusing of time and space, the boundary where time meets space?

A time-space wave. Space evaporates into time, time condenses into space, which then evaporates into time, ad infinitum.

Let's say I'm inside a rocket ship. In all the universe, there is just me inside my rocket—no planets, no stars, nothing. I measure the speed of light. I then hit the "accelerate" button on my rocket and fuel spurts out the back. I feel a gentle push as I apparently accelerate. But how do I know I've accelerated? There is nothing external against which to judge my forward motion. And when I measure the speed of light, I find it to be the same as before I pushed the accelerate button. So: a force has obviously been exerted, I felt the forward push—but how do I know I'm moving? And at what speed? If everything is truly relative, if there is no absolute space, how can I judge my motion and my velocity?

Take an imaginary point. If it's just me and the rocket, can't I choose an arbitrary point outside the rocket and "fix" it in place, pretend that it is the absolute reference against which all motion is judged? So that if I add other rockets, they too can refer to this imaginary point? In the absence of anything else besides me and my rocket, isn't choosing an imaginary point completely valid? Can't any such point rightfully be referred to as a marker for absolute space? So long as all objects consistently agree to refer to this point as the absolute reference?

What is diameter of sun? Multiple of c ? Radius? G force?

Think about motion being per second per second instead of just per second. Relativity is a mistaken conclusion based on a faulty definition of motion. Redefining motion makes time dilation and the non-inertial versus inertial thing go away.

No one (Newton, Einstein, etc) has ever considered that our concept of motion is flawed.

What if, when I throw a light switch, the light is instantly everywhere, then each successive moment it "shrinks" until it is at its destination

each successive moment is a subtraction

if same object, i.e. not two separate objects

↓

here there at

here - there, same time = no motion

here - there, at different time = motion

whereas a person is the same object at different points in time-space.

what if light, rather than being same object moving from here to there in time-space, is actually separate objects, each of which only exists at that point in time-space.

I change my position in space, in time

Maybe light changes position in space, in space.

→ This is why, if I move across the room, I don't look back and see myself where I was, i.e. both here and there. I haven't really shifted position in space, I've shifted position in time-space.

Speed = $\frac{\text{distance}}{\text{time}}$

if it is valid to say "this much distance covered in this much time," should it not be equally valid to say, "this much time covered in this much distance." But the latter seems to make no sense and thus seems invalid. So is the former just as senseless? Is the former not an attempt to equate two things that are not equable, i.e. mutually exclusive things?

Light

Light speed constant ^{motion}
(means Distance $\times$ is constant?)

Differing? experienced depending on?

time dilation / acceleration
what else?
other possibilities
abstract concept?

Gravity

G accel ^{motion} constant

Differing F experienced depending on mass

abstract concept?

How to turn gravity into light & vice versa

look at light wave emanating from source
(in animation) -

Is anything really moving? Is expansion ^{the} movement?

If I were to expand until I reached the moon, would we say I'd traveled to the moon? If a light wave expands from a point to a larger point, is that motion?

If the center of the circle never moves, how can the expanding wave be said to have a velocity? I may have a velocity at points around the circle, but as a whole there is no velocity. $\text{velocity} = \frac{\text{distance}}{\text{time}}$



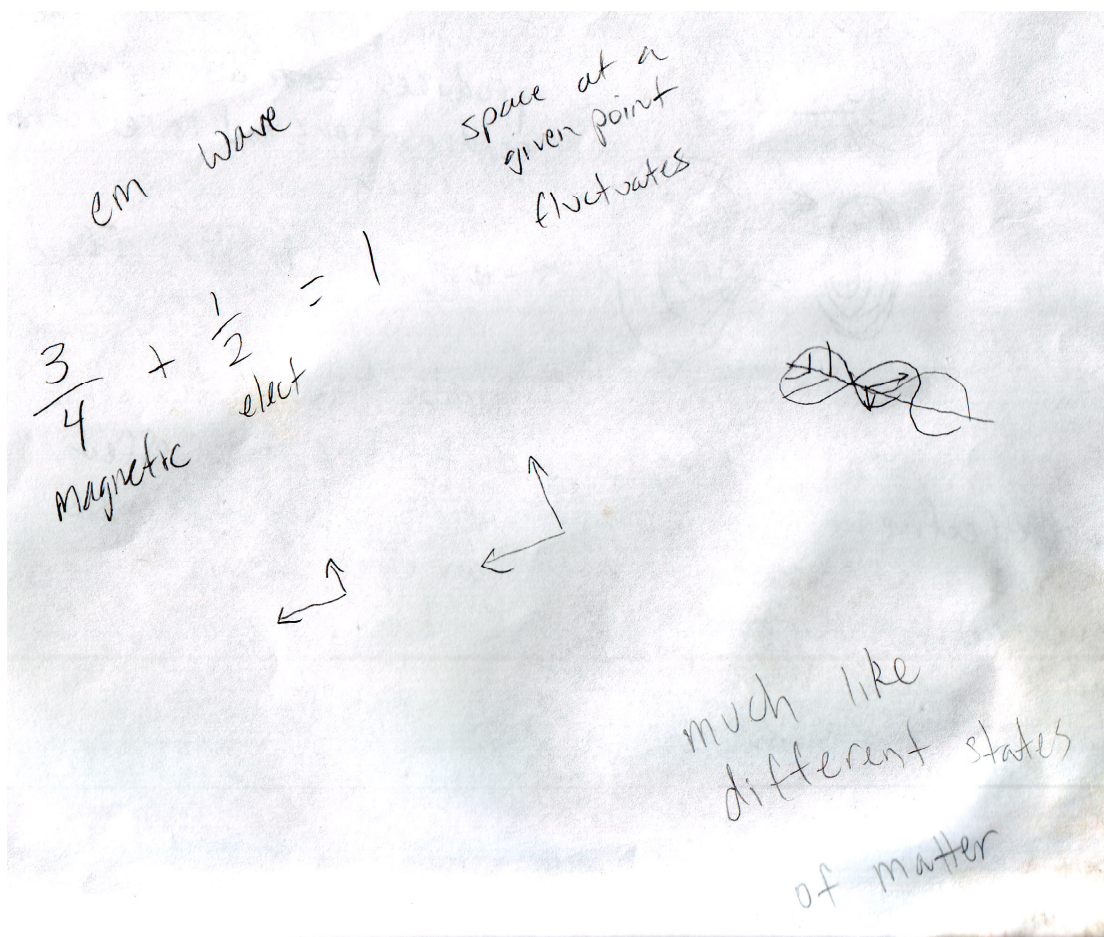
The wave is centered on a point which never moves.

if the light pulse expands from the source so that it touches y, has it really moved from the source to y?

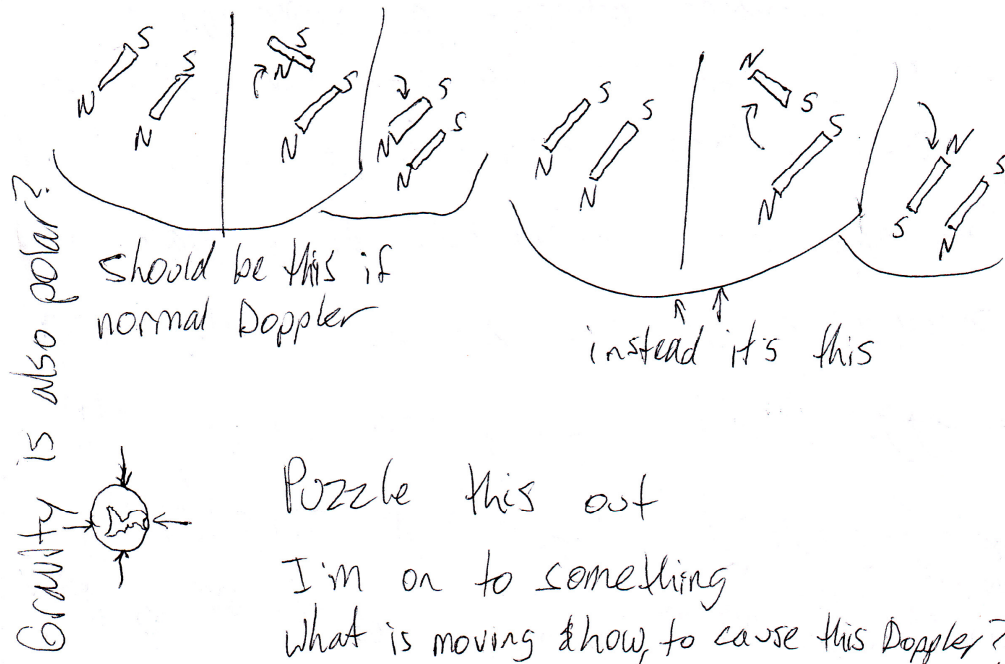
apply to expansion? If we ask how fast something is expanding, are we asking how fast it's moving, or simply the rate at which its volume is increasing?

Difference between light wave & regular wave:

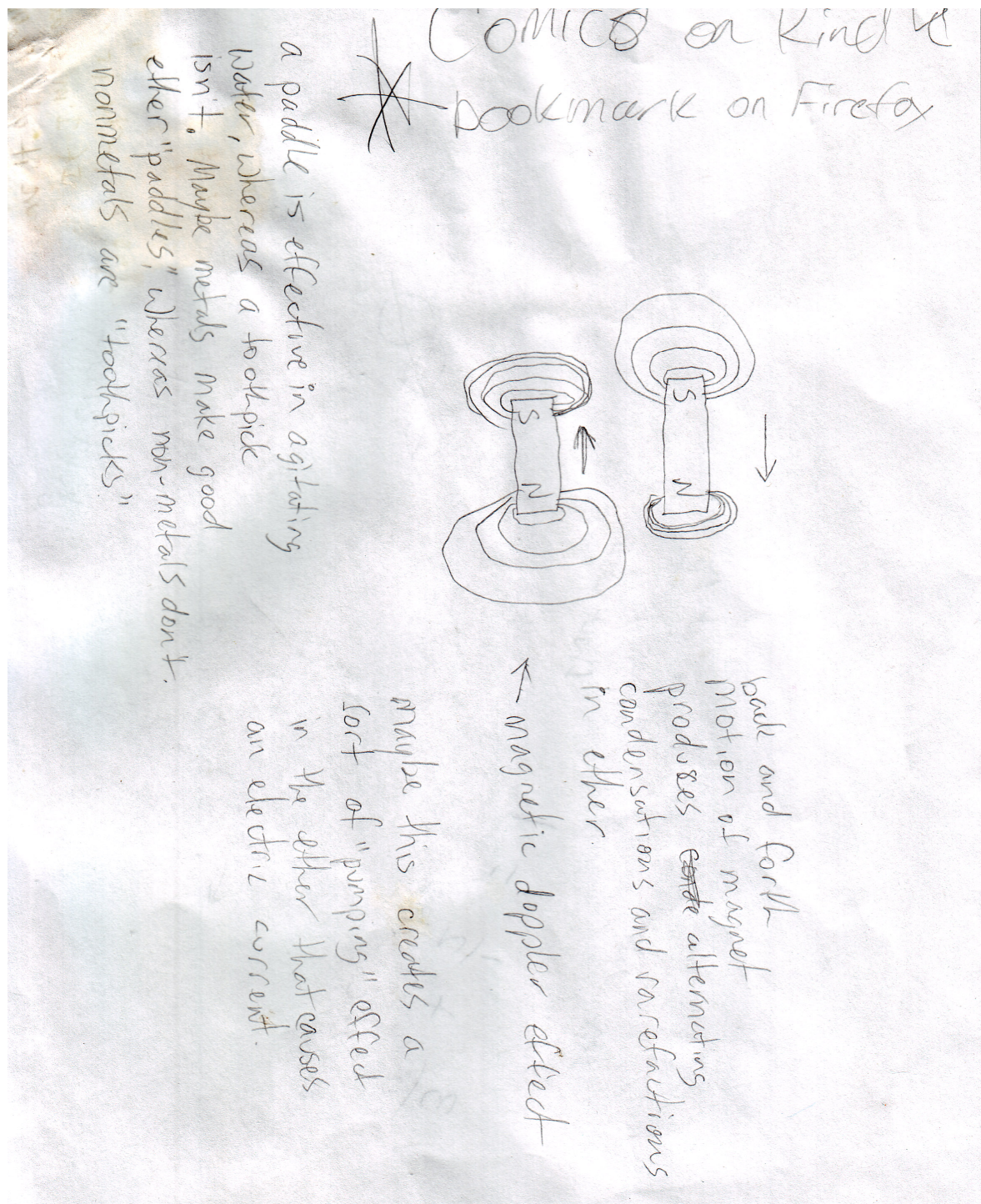
light wave is a traveling fluctuation of a quality (attraction/repulsion) while a regular wave, say water, is a displacement of a molecule or atom.



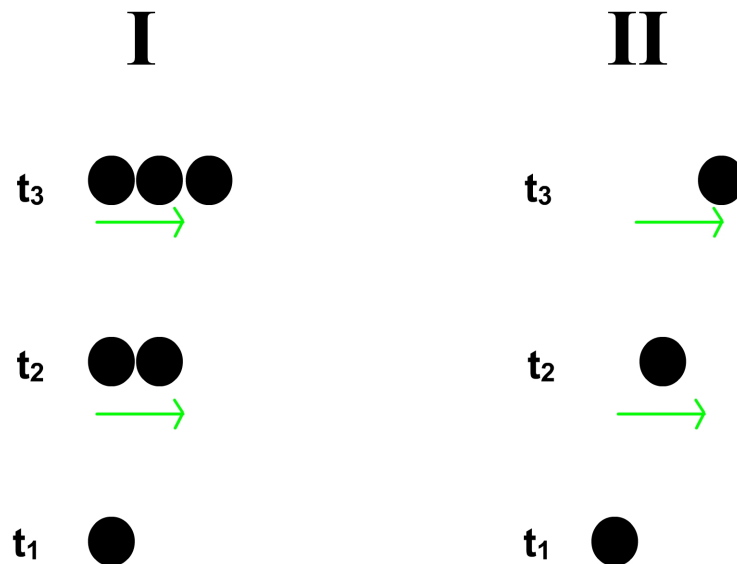
If EM were a traditional Doppler, we would expect the poles on separate magnets to maintain the same relative orientation when the magnets are rotated or moved. But since their poles maintain independent orientations, this shows it's a different sort of Doppler, due to a different sort of motion,



As a later note to above magnetic Doppler drawing, I should say that we would expect the poles to change when a magnet is rotated, as in the left hand drawing, if the magnetic poles are an effect due to motion in some sort of "magnetic" medium. But since the poles remain fixed within the magnet, as in the drawing on the right, then the magnetic poles must be a Doppler effect due to some other sort of motion, a motion that isn't readily apparent, perhaps not even a motion in space, a motion as we ordinarily conceive motion.



If objects actually traveled through space, in the way we commonly conceive of travel, we have situation I below: in each successive instant of time, an object sort of "duplicates" itself as it moves, so that as time passes, there are duplicate copies of the object tracing out the path of the object's travel through space, duplicates that persist in time. And in fact, the "duplicates" would not really be duplicates at all--each "duplicate" would actually be one and the same object, but somehow located at multiple positions in space. Also, in situation I below, if we insist on saying that space in each instant of time is the same space as in the previous instant, then rather than each time instant being "stacked," each instant would be superimposed on all others, so that space in all instants would be the same identical space. Since we do not experience situation I, we must conclude that objects do not travel through space--they travel through time as in situation II below. And the space in each instant of time is a different space from the space of the previous instant.



The above idea is an extension/addendum to a previous idea outlined in my notebook.

The above idea arose from the following thought: we persist through time. Regardless of motion, my body appears to be the same body, "carried over" from the previous instant of time. Every object around me appears to be the same object "carried over" from the previous instant of time. Objects persist. Thus, if motion was through a space that similarly persisted through time, should not the spacial configuration of each instant be preserved in the next instant, so that we would have situation I as above? I.E. a space filled with numerous separate objects that are actually the same object?

I know this probably seems confusing or difficult to understand, or far fetched, but this is the germ of an idea here. I'm merely preserving my thoughts for future exploration.

133.

All objects measure the same acceleration for gravity regardless of mass. All objects measure the same velocity for light regardless of motion.

Gravity—same change in velocity (rate of change in position) regardless of mass of object. Light—same change in position regardless of motion. Both measurements of something external to object. Force?

Is light a force?

134.

Each point in space near a mass feels a differing force of gravity, such that a point nearer a mass will feel a stronger force than a point farther from the mass. If we imagine a series of concentric circles centered on a point, then a point on a circle with a larger diameter will feel a smaller gravity force than a point on a circle with a smaller diameter. But the increase in force is constant, so that a mass at each point will feel an increase in force that will cause an equivalent acceleration regardless of the mass's size.

Now think of light. As an object accelerates, it will measure the same velocity of light regardless of the object's speed (similar to a mass measuring the same acceleration due to gravity regardless of mass size). Try to interpret this in terms of gravity as outlined above. Maybe there is a connection between gravity and light, and this is where it lies.

135.

Let's go back to my earlier writing that a magnet may be some sort of a Doppler effect. In my earlier example of a man on a moving platform that has a sound emitter. When he's standing forward of the emitter, he hears a low-pitched sound. When he's standing to the rear of the emitter, he hears a high-pitched sound. And when he's traveling from forward to aft, he hears the pitch decreasing from low to high.

Likewise, if magnetism is a Doppler effect, then something, say, an electric charge, moving from one magnetic pole to another will experience some similar effect, similar, that is, to how the man experiences a cycling of the sound from low to high.

So what we believe to be the "positive" pole of a magnet may actually be the equivalent of the

“forward” position in my moving platform example, and the “negative” pole may actually be the equivalent of the “aft” position, or vice versa, and the man moving from fore to aft could be equivalent to an moving electric charge.

Or maybe an electric charge is a manifestation of something that passes between the poles of a magnet.

136.

Here's another question for the wormhole time travel enthusiast: where in space does this hypothetical wormhole time traveler emerge from the wormhole?

If, as I've quoted Stephen Hawking and wikipedia earlier, a prospective time traveler on Earth enters the wormhole mouth which reads 2010, and emerges from the end that reads 2000 (when the rocket carrying the wormhole on its journey left Earth), where does he emerge? Suppose the rocket has completed its journey and both rocket and wormhole and astronaut are back on Earth. Let's say the astronaut enters the 2010 mouth (the stay-at-home mouth). If he emerges from the 2000 mouth on Earth, then time travel paradoxes will ensue, since he will be able to meet and kill himself upon his return. Not to mention the fact that he would have to emerge from the 2010 mouth in 2000, unless we want to believe that a new wormhole mouth suddenly pops into existence in 2000 to spew out the time traveler, which then leaves us with three wormhole mouths. This is in clear violation of Stephen Hawking's absurd Time Travel Exclusion Law, or whatever name he calls it. But if he emerges on Earth in 2010, then no time travel occurs. The only possibility is that he will emerge somewhere along the path of the rocket's travel, in which case he can still meet and kill himself. Violation of the Law once again. Wormhole time travel simply makes no sense.

137.

In a classic auditory Doppler, using my example of the man on the moving platform, the effect only depends on the man's position relative to the source—whether he's standing fore or aft of the source. The effect doesn't depend on his orientation to the source, that is, whether he's facing toward or away from the sound source. But if magnetism is some sort of Doppler effect, the effect depends not only on whether a particular magnet is positive or negative of another magnet, it also depends on the orientation of the magnet in question—whether it is “facing toward or away from” another magnet.

Try this—in the auditory Doppler, the effect depends on two things: the position of the man relative to the sound source, and the man's and/or the source's velocity relative to the medium that conducts the sound. But a magnetic Doppler would depend on the orientation of magnet A's poles towards those of magnet B, and magnet A's position in space relative to magnet B. Or can we do away with the position in

space part and say that it only depends on the orientation of the poles? And if it's a Doppler, where does velocity come in to this? And why is it only metals that experience this Doppler?

138.

Gravity—same change in velocity regardless of mass of object.

Light—same change in position (of photon, wave, whatever) regardless of motion of object.

Both measurements of something extend to object—force?

139.

Inertia—trying to displace something from its previous place from one moment to the next.

As mass increases, gravity should decrease, or terminate after a certain mass is reached. Light can't attract because it's already accelerated to its limit.

Mass generates light at same acceleration as mass's g. Or maybe light speed in a g field is $c-g$ or $c+g$ or something. Added regardless of photon's orientation in field?

Gravity should be generating light—magnetic field of Earth?

Light should generate gravity.

More mass, more inertia, more time dilation.

Greater time dilation experiences same acceleration/g. Greater time dilation experiences same c.

Doesn't matter how "deep" in gravity field, always get same acc. **NOT TRUE! Doesn't matter how close to c, always measure same c. **If first sentence is not true, is second sentence untrue also?

Mass is irrelevant in g. _____ is irrelevant in c.

Time dilation depends on "depth" in g field?

Light/electricity should be able to be used to generate gravity. How?

(Mass, inertia, light, gravity, temporal distance=time dilation)—All connected by motion or time?

140.

Gravity—adding mass, acceleration stays constant, but G force increases.

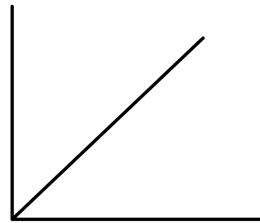
Light—adding velocity, light speed stays constant, but speed increases.

Key—an object's velocity is to light speed as an object's mass is to gravitational constant G? (bigger mass gets stronger gravitational force, but same acceleration, as a smaller mass). (Higher velocity gets greater time dilation but same c as lower velocity). Connection between light and gravity.

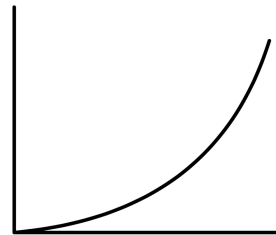
In analogy, time dilation plays the role of g force.

Are g force and time dilation the same thing?

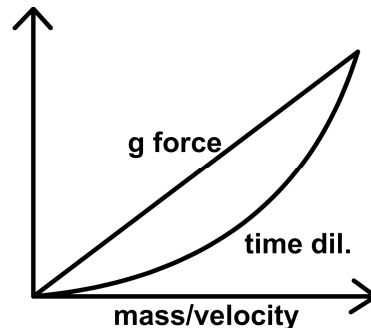
But grav. Accel. and force is this:



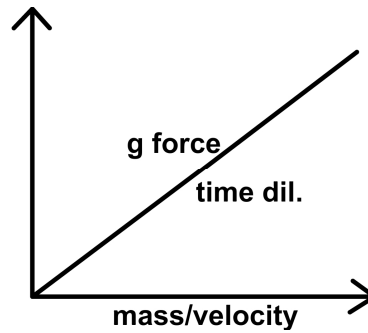
Whereas time dilation is this:



If they're the same, why this:



And not this?:



What is y-axis in each of above? If accel. is constant, what is increasing on y-axis?

In gravity, acceleration remains constant and is determined by interplay of mass and gravitational constant. In light, c remains constant and is determined by ____?

Need to study: why/how is gravity said to dilate time?

G is constant, c is constant.

Apply G to c ? Is G the “time dilation” constant for motion/acceleration?

Is gravity light, or vice versa?

Mass-gravity. Energy-light.

141.

Milgrom’s law.

142.

Another reason Relativity is ridiculous:

Take Einstein’s famous “train traveling along the embankment” thought experiment. Which is really moving, the train or the embankment? Who can say for certain? Either viewpoint is correct, Einstein says.

But suddenly the train slams on its brakes. Now the situation is not equivalent. The train is clearly the

one in motion, since its motion can be distinguished by the forces it experiences during deceleration.

Funny. Both situations are equivalent until the train slams on its brakes. Doesn't that mean the situation was never really equivalent at all, and merely that we weren't aware that the situations weren't equivalent? After all, the train had to accelerate when leaving the station. The embankment was never capable of slamming on its brakes and decelerating. It was the train that accelerated itself relative to the embankment, and thus the train alone had the capability of decelerating to restore the balance that existed before the train accelerated from the station. You could try to argue that the embankment was capable of "reversing" its motion to restore a relative state of rest between itself and the train; thus, while the relative uniform motion existed between the two, either was capable of restoring a state of relative rest between the two. But such an argument ignores the fact that the train broke the equality in the first place, and thus, to restore the situation precisely, the train must be the one to restore the equality, not the embankment. If nature doesn't care that the train broke the equality, that doesn't mean we must match nature's ignorance. Nature is inanimate; we're thinking beings. We know better.

143.

Here's a nice thought experiment that points out the ridiculousness of relativity.

Let's take Einstein's example of the train moving along the embankment, and the lightning strikes. Let's then take it one step further. Within this train, there is a miniature train traveling on its own track. You know, a toy train like you can buy in a toy store, set up within the larger train, on its own track and with its own little mountains and miniature villages, etc.

At a point when the toy train happens to be trundling toward the front of the larger, human-scale train, a passenger on the larger train stabs two stakes into the toy ground, one to the front of the toy train's path and one to the rear, and he does so such that both stakes enter the ground simultaneously from his own viewpoint.

Now, following Einstein, a little toy passenger inside the toy train will see the light from the forward stake first, since he is moving toward the forward stake. (Obviously, since the stake is reflecting light, which is how we are able to see it. The stakes are thus exactly equivalent to a lightning strike). The toy passenger will thus conclude that the first stake was jammed into the ground first, and the rear stake second. The toy passenger, when later asked by the human-scale passenger, will tell the human-scale passenger that he jammed the stakes into the ground non-simultaneously. Following Einstein, we must allow that the toy passenger in the moving toy train will measure the same speed for light as the larger passenger, even though the toy passenger is moving relative to the larger.

Are we to allow this absurdity? Where do we draw the line? Suppose each toy train has a moving toy train inside it, so that we have a regress of nested toy trains all the way down to atomic scale, like a Chinese puzzle box? Would it not be correct and better to say firmly that the largest train is the true

reference frame, and we must refer all measurements within the smaller trains to the largest train, rather than pretending that each toy train is its own reference frame, completely independent of all other trains, both larger and smaller?

But even this is not sufficient, for we already stated that the largest train was itself moving along an embankment. To find the true “largest train,” we must therefore enlarge our scale to include the bounds of the entire universe. The “walls” of the “largest train” would therefore be the bounds of the entire universe, and that is the “train” to which we would reference all motion.

My point is that it seems absurd to allow each toy train to have its own independent reference frame. Since there is obviously a larger space in which the toy trains can move, why should nature attach an independent reference frame to that train? But nature doesn’t attach reference frames; that is a human quirk. Unless the train is entirely self-contained and there is no external space in which it can move, then why should humans attach an independent reference frame to every single thing that can move? If a thing can move, then it is *de facto* part of a larger reference frame, a reference frame that cancels out the train’s “independent” frame. If object A and B are both capable of independent motion, and they are each capable of circumnavigating the other, then they share the same space, and hence both are *de facto* within the interior of a larger object, C. The actual state of their motion is irrelevant to the consideration of a reference frame; the very fact that each is capable of moving in the same space as the other, and that each is capable of identical freedom of movement, automatically means their motion must be referenced to the larger object, even if the full extent of that larger object cannot be readily detected.

And I’m not saying that each individual reference frame must be extended from the object to encompass the entirety of the space in which the object is embedded, so that each object has its own independent reference frame that encompasses the entire universe, leaving us with X number of objects each with its own enormous, independent reference frame. What I’m saying is that we must work inward. We take the bounds of the largest reference frame and extend it inward, so that it encompasses the smaller objects contained within it. In my train example above, we would extend an imaginary coordinate grid from the walls of the train itself, such that the interior of the train is marked off by this grid. Thus, each toy train and its nested counterparts would share this larger grid. The grid attached to the human-scale train would thus be the only valid grid, and all other smaller grids would be mere convenience for the toy passengers.

But as I’ve said, even the human-scale train is moving, or at rest, whichever is the case, within a larger space.

From all the above, there *must* be an absolute reference frame, extending inward from the bounds of the universe, to which anything within the universe must reference its motion. It doesn’t matter that we can’t determine what this absolute reference frame is, any more than it matters whether the man in the human-scale train is able to see out a window or open a door to determine whether he’s actually enclosed within a train. The absolute reference frame is *there*, regardless.

144.

The classic concept of force is of a certain mass being accelerated.

But how about this: force should actually be defined in terms of “a mass X being translated to a new location, a duration Z later.” In other words, we should say, “The force required to move 10 pounds across the street 10 seconds from now,” or, “The force required to move 10 pounds across the street 5 seconds from now.”

You might think I'm merely stating the classic concept of work, which is force acting over time, and thinking I'm discovering something new. I may be, but I'm not sure. I just came up with this thought, but I think I'm thinking of something other than work as classically defined in physics. I need to mull this over more. But at first glance, I think my thought is more of defining work directly, rather than as an extension of force. I mean, classical physics defines force first, and then derives, or extends, work from that. But my thought is that maybe I'm trying to define work directly, in tandem with force, so that I have a new concept, rather than two separate but dependent concepts. At least that's what I'm thinking; my idea, as I have it in my head, doesn't feel exactly like classical work. Where I think the difference may lie is that classical work envisions the force acting on the mass as it takes, say, five seconds to move across the street. It's a continuous process acting over a period of time. My thought, my idea, is more like this: my force acts to propel the mass to a location across the street, five seconds in the future, *instantaneously*, without acting over the intervening distance for a duration of five seconds. My concept of “The distance X” is coming into play here, I think.

145.

If time dilation and gravity are the same thing, how does time dilation cause acceleration?

In the case of gravity, time dilation causes acceleration in a mass without any apparent outside help. Perhaps it is mass that generates the time dilation.

In the case of a mass accelerating toward light speed, say, a rocket, an outside force, namely the rocket's thrusters, causes the time dilation.

So time dilation causes acceleration in one case, and in the other, an impressed force causes time dilation, which time dilation does not in itself cause an acceleration. What is the difference in each case?

146.

Somehow set up a gauss meter to continually measure the strength of a particular magnet, 24 hours a day, 7 days a week for an extended time, to determine if the strength of a magnet fluctuates over time. If

so, does it fluctuate according to a predictable period, or in response to some influence in the environment, etc?

Try moving a magnet around a city or around the country, and continually monitor its strength. Does the strength remain constant, or does it vary according to environmental factors? If so, what causes the strength to vary?

Are there any situations in which the poles of a magnet that is in motion change orientation? Perhaps depending on the magnet's direction of travel, or its position relative to something in the surrounding environment?

147.

Forget the idea of light as something that travels. Maybe light is somehow a part of the structure of time.

148.

Object A measures a different force of gravity than Object B, but both measure the surface of the Earth approaching them at the same speed. This is due to their differing masses and thus inertia.

Object A measures a different (force of?) time than Object B, but both measure the light approaching them at the same speed. This is due to their differing states (of motion and thus energy?)

Somehow $e=mc^2$ applies to gravity. With gravitational attraction playing the role of light.

My gauge theory is an actual larger theory that breaks down into gravity and EM energy. It's not a template; it's a unification. It shows that the same thing lies behind both G and EM. I need to tease out that something. When my template does that for me, it will become a gauge theory, a unification of G and EM.

That "something" is the connection between G and time dilation, which has something to do with matter and motion (time).

149.

In the gauge theory, items in the same blanks are related phenomena. Known properties of one can be used to deduce unknown or undiscovered similar properties of other.

Gauge theory: Differing _____ will measure the same _____ as long as they're _____.

For gravity, differing masses will measure the same gravitational acceleration as long as they're at the same location in space.

For light, differing states of motion will measure the same speed of light as long as they're ____?____.

Equal masses at different distances from Earth won't measure same gravitational acceleration. To measure same gravitational acceleration, both masses must basically be side by side. Likewise, unequal masses at different distances won't measure same gravitational acceleration. To measure same gravitational acceleration, both masses must basically be side by side. (i.e. isn't g only 9.8 m/s/s at Earth's surface?)

What is the equivalent of above in terms of measuring speed of light?

150.

The speed of light and the acceleration of gravity are equivalent, related phenomena.

Are inertia and time dilation the same thing?

Greater inertia experiences a greater g force. Greater time dilation experiences a greater ____?____.

Time dilation—acceleration. Inertia—mass. Mass can be accelerated—time dilation is a property of mass, just as inertia is. Are they the same property?

As you increase the mass, the g stays the same due to inertia. As you increase the velocity, the c stays the same due to time dilation.

151.

In a gravitating object, the larger the mass of the object, the more inertial resistance and hence the same acceleration as a smaller mass.

Could it be that as an object accelerates toward c, there's something similar to inertia that keeps light speed same as for a lesser moving object? Maybe inertia itself is at work in both instances, keeping c constant and keeping gravitational acceleration constant, for all objects. Maybe it's not "mass" that increases as one speeds up, but rather it's inertial mass.

152.

Michelson Morley is same as fore/aft lightning strikes in rocket and up/down light clock combined.

153.

Time dilation as a Doppler effect? As you move faster you measure a shorter time wavelength.

Gravity as a Doppler? As you move faster you measure a shorter gravity wavelength.

154.

Light has nothing to do with causing time dilation. You might think it does, since we say “the closer one gets to light speed.” But remember: SPEED is the culprit, not light. ANY speed, not just light speed, causes time dilation. It’s just that when you hit a critical speed, time can’t be dilated any further.

Time and speed are key maybe, since speed is d/t , the answer lies in the way time and speed combine to cause “time dilation.”

Time and speed ARE time dilation. Or...time DILATION and speed are....?

What is the unit of time dilation?

155.

Elevator—feel like you’re going down in free fall, but you’re really going up—remember dream.

156.

For future pondering and research:

Do metals have a “pole preference”? What I mean by this is, suppose we have an unmagnetized metal bar. We label one end with a “1” and the opposing end with a “2.” We then magnetize the bar, such that it now has a north pole and a south pole, each magnetic pole being associated with one of the labeled ends of the bar. We then demagnetize the metal bar, and then magnetize it again. When it is remagnetized, does the same magnetic pole become associated with the labeled end with which it was previously associated, during the first magnetization? Or does each pole become associated with a different labeled end than previously? What I mean to determine by this is, are the same poles always associated with the same end every time (pole preference), or are the poles free to vary with each magnetization? In every

piece of metal, are the same poles always going to be associated with the same location in the metal?

If magnetism is some sort of Doppler effect, then pole preference would be evidence of it.

157.

Why is the induced motion from gravitation accelerated rather than constant?

The obvious answer would seem to be that it's because the gravitational force at any given point in space increases as one moves toward the source of gravitation.

158.

Gravity and magnetism seem to be similar in that they both "attract" objects. Magnetism has an interrelated force associated with it: electricity. Might gravitation similarly have some sort of force associated with it? Perhaps something that operates on a planetary scale, since noticeable gravity requires very large, or dense, mass. Might this force have something to do with time dilation?

159.

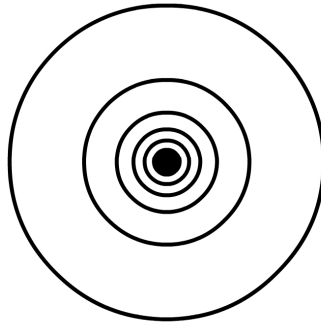
Gravity as a "reverse" wave. Rather than going out from a source, the wave is coming in to the source.

160.

Most waves are created by motion. A wave in a rope is created by an arm holding the rope and moving up and down. A sound wave is created by motion in the air, or by something "banging" against the air. So what creates a gravity wave? Maybe time creates a gravity wave. When one moment becomes the next, this is somehow akin to "banging" against the aether, or against space, which creates a wave.

161.

How Einstein could mistakenly derive curved spacetime: imagine a diagram with a solid dot at the center of a series of circles. As one moves outward from the center, the increase in the diameter of each successive circle is greater than the increase in the diameter of the interior circles. Screw my poor description; just look at diagram below to see what I'm trying to describe:



Sort of like a topographical map. You can construct curvature from a flat map, if you assume that decreased distance between any two lines means a greater increase in height between those two lines. Likewise, greater distance between two lines means less of an increase in elevation.

So if Einstein looks at gravitational waves in the aether and adopts the convention that greater wavelength means less spacetime curvature and shorter wavelength means more spacetime curvature, or vice versa, he could easily derive a curved spacetime, even if that spacetime is not actually curved. But it's a false curvature. It's like saying that a topographical map is actually curved, or actually changes elevation between the lines, even though we can't see it; saying that the map is curved in a higher dimension. Sure, the map represents the actual change in elevation of a particular landscape, but Einstein's method of deriving curvature says the map is the landscape, and it's really curved, but we can't see the curvature.

Or derive it an alternate way: let's say at one point in space, the acceleration due to gravity is 5 meters per second per second, and at another point a short distance away, the acceleration due to gravity is 9.8 meters per second per second. You can adopt the convention that the increase in acceleration between the two points represents a curvature of something you're calling "spacetime" between those two points. You can represent this mathematically; you can develop a whole system of mathematics on spacetime curvature. But this mathematical consistency does not mean that there is an actual entity called spacetime, or that spacetime is curved. All it means is that you've developed a consistent mathematical structure based on the assumption that the increase in gravitational acceleration between two points represents curvature. That assumption may be incorrect. All that can truly be said with any certainty is that there is an increase in gravitational acceleration between two points in space. Claiming that that

increase in curvature is an assumption, made without any evidence. And thus, general relativity is based on an evidence-less assumption.

162.

I want to go back to something I wrote in # 5 above. I wrote, "Let's say at one point in space, the acceleration due to gravity is 5 meters per second per second, and at another point a short distance away, the acceleration due to gravity is 9.8 meters per second per second." But that is not an accurate picture of gravity. At any one point in space, there is no *acceleration* due to gravity. There is only a certain "speed" due to gravity. A more accurate restatement of what I wrote in # 5 above would be, "Let's say at one point in space, the speed due to gravity is 5 meters per second, and at another point a short distance away, the speed due to gravity is 9.8 meters per second."

And that latter restatement is what I want to expand upon.

I view gravity as a sort of conveyor belt which ends at a gravitational source. There are spinning wheels at equal points along this conveyor belt, rotating in the direction of the gravitational source. So, if you place something, say, a box, at the non-source end of the conveyor belt, the first wheel will grab the box and shoot it along at the linear equivalent of the wheel's rotational speed. The box will shoot along the belt until it hits the next wheel, which, since it is spinning faster than the first wheel, will increase the speed of the box's travel along the belt. After encountering the second wheel, then, the box has accelerated. It will shoot along the belt until it hits the third wheel, which is spinning faster than the second; thus, the box will be moving at even greater speed after encountering the third wheel. And so on. The entire effect is that the box is accelerated toward the source-end of the conveyor belt. This is a good approximation of how I view gravity. Each point in space near a large mass has a certain amount of "gravitational speed" associated with it, akin to the spinning wheel in my analogy. There is no "gravitational acceleration" at that point. The gravitational acceleration comes in when you compare the difference in the "speed" between two or more points in space.

The question that needs to be answered is, What starts the motion in the first place? That is, What exactly "grabs" a mass and starts it moving toward the larger mass? That is *gravity*, and that needs to be explained. In other words, What is the nature of the "wheels on the conveyor belt" that make up gravity?

You can say, as Einstein did, that the difference in the speeds of the wheels are actually spacetime curvature. But that still does not explain what "grabs" a mass and starts it moving. Spacetime curvature does not explain gravity, despite Einstein's claims that it does.

More questions for thought: What if all the "wheels on the conveyor belt" spun at the same rate? The box would experience no acceleration, just constant, steady rate of motion. This is what I was alluding to in # 1 above. And what if the distance between the wheels was so great that the box stopped moving before it reached the next wheel? Analogizing the belt to gravity, you could say that Newton's First Law of

motion doesn't allow the box to come to a rest. Einstein would probably say that Newton's First Law is what sets the mass in motion in the first place: both you and the mass are already in motion, but your hand is holding the mass in place, and the ground is holding you in place, but when you let go of it, the mass accelerates, continuing in its state of motion, until it is blocked by the ground. But Einstein's assertion regarding the First Law still doesn't solve the problem. Why is the mass already moving? Due to gravity? But that's circular reasoning. Why is it moving and not at rest when it first encounters the larger mass's gravity, or spacetime curvature? The mass could just as easily be at rest relative to the larger mass, just outside the range of its spacetime curvature or gravity...Einstein would then further respond that the smaller mass is never outside the range of the larger mass. The curvature the larger mass creates, however small, extends throughout the entire universe. Which is an absurd notion in and of itself.

Einstein's spacetime curvature does not explain gravity. It only raises further questions.

163.

Let me look at similar aspects of gravity and light, but show the differences between those aspects.

Light appears to emanate outward from its source. Gravity (simply because it draws things toward the source) seems to emanate toward the source.

Things accelerate under their own power toward a light source. They are not drawn toward the light source against their will. Things accelerate against their will (not under their own power) toward a gravity source.

164.

In special relativity, any given observer isn't judging whether event A happened before or after event B. The observer is judging whether the light from A reached his eyes before or after B.

165.

It's almost as if a moving particle is "transmitted" as if it were a radio wave, having solidity as a particle only at the transmitter and the receiver. It needs to interact with other matter to give it solidity. Matter "converts" the particle wave into a particle solid.

166.

Two is the key to everything. Duality. Two eyes, two ears, two legs, etc. Gravity-source and gravitating

body—two. Positive and negative—two. Time and space—two.

167.

If the speed of light is independent of the motion of the ship—what is gravitational equivalent? The speed of gravity is independent of the motion of....?

Take all EM and light properties and deduce equivalent gravitational properties.

168.

According to the relativists, gravity is due to the curvature of spacetime. But maybe it's due to space curving in time. And yes, there is a difference. Spacetime is viewed as a combined structure. But what I'm saying is that space and time are separate, and that space is curved in time rather than in space.

As an example: take a point X in space at time A. If space is curved in time, then that point X, at a subsequent time B, will be in a different position than it was at time A. Thus, an object located at point X will experience a shift in location between time A and time B, a shift that is not due to motion, but due to a shift in position of the space the object is in.

You see the difference between spacetime curvature and space curving into time, in the sense that I mean it? I'm talking about a point X in absolute space which is in a different location in absolute space in a subsequent moment of time.

169.

Let's take the geocentric/heliocentric debate. There really is no debate; both viewpoints are equally valid, the only difference being a choice of reference frame. If you choose the sun as being "at rest" in the solar system, you use one coordinate system; if you choose Earth as being "at rest" in the solar system, you use a different coordinate system; and likewise, if you choose some other planet as being "at rest" in the solar system, you use yet a third coordinate system. Moving from one coordinate system to another involves a mere transformation of coordinates.

Now let's take the quantum position/momentum debate, where you can't know both the position and the momentum of an electron; you can only know one or the other. Can the geocentric/heliocentric "problem" be applied to the position/momentum "problem"? Look at it this way: if you "freeze" the motion of something, whether it is the Earth, the Sun, or an electron, you take away its momentum, since something has to be in motion to have momentum.

Here is my whole point: when you choose the Sun as a stationary reference frame, you use one

coordinate system. When you then shift to the Earth as the stationary reference frame, you have to transform your coordinate system. So: perhaps scientists aren't doing the atomic equivalent of transforming their coordinate systems when they choose a particular atom as a stationary reference point. And after all, when you pin down the location of an electron, aren't you choosing it as a stationary reference point? When pinpointing the location of an electron, scientists are failing to switch from a coordinate system in which the electron is in motion to one in which the electron is at rest. They think they have a "position/momentum" problem, when all they really have is a failure to switch reference frames.

170.

Perhaps the atomic world has a barycenter, a preferred central reference point, which is where the sum total of all atomic interactions are centered, much in the way that our universe must have a barycenter. When you consider the sum total of all mass in the universe, there must be a point where the sum total of all gravitational interaction cancels out. Perhaps the atomic universe has a similar point. Would the atomic barycenter and the macroscopic barycenter coincide?

171.

Galileo Was Wrong, the Church Was Right, Volume One, page 116: "Hence, according to Einstein's own words...variations in the gravitational field will allow variations in the speed of light. Since in a rotating universe the gravitational force increases in proportion to the radial distance from the Earth, consequently, the farther the distance, the faster light will be able to travel."

Interesting. This is exactly what I said (earlier in this notebook, or perhaps it was in volume one of this notebook) might be happening with the Pioneer anomaly. The speed of light increases as one moves out of the solar system, which is why the Pioneer spacecraft appears to be decelerating. Light is actually accelerating, making it appear that the probe is not as far out as it should be if light speed were constant.

172.

My responses (in **bold**) to a certain website on astronomy:

"A decade ago, it was discovered the Universe's expansion was accelerating. This continually expanding Universe was attributed to dark [energy](#), the highly repulsive and mysterious stuff that has yet to be detected. But some scientists came up with an alternate [theory](#) where Earth was near the centre of a giant void or bubble, mostly empty of matter. But new calculations solidify the case that

dark energy permeates the [cosmos](http://www.universetoday.com/22912/more-evidence-earth-is-not-center-of-universe).” Source: <http://www.universetoday.com/22912/more-evidence-earth-is-not-center-of-universe>

If Earth is at the center of the universe and at the center of a violent ancient explosion (a Big Bang), then the further one gets from the center, the cooler things will be: they will be red-shifted. And perhaps as time passes, they will cool faster, so they will become red-shifted at an increasing rate.

“Furthermore, if there was a point of origin (the center) of the Big Bang similar to typical explosions, then that point and all regions [near](http://www.universetoday.com/36653/center-of-the-universe/) it would be comparatively warmer than all others. That is, as you move further from the center of a typical explosion, you would expect to measure cooler temperatures.” <http://www.universetoday.com/36653/center-of-the-universe/>

Exactly. So the Earth being at the center of the universe is in keeping with astronomical evidence: In every direction we look, Earth is at the center of a sea of red-shifted stars, and the further out one looks, the more the stars are red-shifted. You can look at this red-shifting as either being due to a velocity shift as the stars move away from us, or as being due to space and everything in it being cooler the further out one goes.

“While dark energy sometimes seems pretty far-fetched – with its mysterious and so far undetectable properties – the alternate “void” theory of why the Universe is ever-expanding contains a problem, in that it violates the long held Copernican Principle.” Source: <http://www.universetoday.com/22912/more-evidence-earth-is-not-center-of-universe>

According to the above, the alternate “void” theory cannot be correct because it violates a widely accepted philosophical principle. In other words, we have here a case of scientists invalidating a theory simply because it goes against widely held belief.

“Although the Copernican Principle has become a pillar of modern cosmology, finding conclusive evidence that our neighborhood of the Universe really isn’t special has proven difficult.” Source: <http://www.universetoday.com/22912/more-evidence-earth-is-not-center-of-universe>

Exactly what I’ve been saying. There is no proof that the Earth is not at the center of the universe. Saying that it’s not is a mere philosophical preference.

“The team’s calculations instead solidify the conventional view that an enigmatic dark energy fills

the cosmos and is responsible for the acceleration of the Universe. ‘Recent advances in data collection have brought us to the era of precision cosmology,’ says Zibin. ‘Void models are terrible at explaining the new data, but the standard dark energy model works very well.’” Source:

<http://www.universetoday.com/22912/more-evidence-earth-is-not-center-of-universe>

What the above quotations say is that, alternative models are terrible at explaining the new data. But the standard model can explain the data if its proponents make up a completely ad-hoc, hypothetical stuff called “dark energy” that has never been detected. Very nice. What they’re not directly saying is that their standard model is just as terrible as the alternative model at explaining the data, but they can mask that terribleness by pulling dark matter out of their butts and using it to spackle the hole in their theory. Is that beauty in science? Is this what is known as “elegance?”

“Since we can only observe the Universe from Earth, it’s really hard to determine if we’re in a ‘special place,’ says Zibin. ‘But we’ve now learned that our location is much more ordinary than the strange dark energy that fills the Universe.’” Source: <http://www.universetoday.com/22912/more-evidence-earth-is-not-center-of-universe>

Implying basically that Earth at the center of the universe is strange, and that Earth not at the center of the universe is not strange only if one makes up a strange entity called “dark energy.” I call this procedure “transference of strangeness.”

“For us to get a near accurate analogy, it is important that the observation be limited to the surface alone. If we try to interpret the expansion as being manifested by the whole balloon, we will be tempted into interpreting the geometric center of the balloon as the center of the expanding Universe.”

<http://www.universetoday.com/36653/center-of-the-universe>

So you want us to confine the analogy to the surface of the balloon, because if we don’t, then we’ll see that the analogy could be applied to both an Earth-centered and a non-Earth-centered universe. How convenient. To exclude a non-Earth-centered model, proponents of an Earth-centered universe can likewise insist that the analogy be confined to the center of the balloon.

“Going back, if we just focus on the surface, you’ll notice that each and every dot will drift farther away from adjacent ones and that no single dot will appear as the center.” Source:

<http://www.universetoday.com/36653/center-of-the-universe/>

Yes. And going back, if we just focus on the center, you’ll notice that each and every dot

will drift farther away from adjacent ones and that a single dot will appear as the center. What's your point? I refuse to allow your stipulation that we must focus on the surface only, and then listen as you crow that you've somehow discredited an Earth-centered universe. You can't present an analogy that could support either viewpoint and, simply by making an ad-hoc exclusion of the opposing viewpoint, claim that the analogy supports only your viewpoint. That's ridiculous.

"In 1610, Galileo used his first rudimentary [telescope](#) to observe that Venus went in phases just like the Moon. This went against the [theory](#) that everything orbited the Earth, and was further evidence that it goes around the Sun. Galileo also observed how Jupiter has 4 major moons that orbit it. This broke the previous believe that all objects orbit the Earth." Source: <http://www.universetoday.com/18097/the-earth-goes-around-the-sun/>

Actually, it wasn't further evidence that Earth goes around the sun. It was further evidence that the geocentric model needed to be modified, not completely abandoned. Scientists like to modify theories, as evidenced by their propensity for making up things like "dark energy" to plaster the holes in their theories. The geocentric theory can be modified by saying that the universe *as a whole* revolves around Earth. This allows for planets to orbit the sun even as the sun orbits the Earth.

"The motion of the Earth as it goes around the Sun is well calculated today. Space agencies use these calculations to launch spacecraft to explore the other planets in the Solar System. If everything went around the Earth, we'd know by now." Source: <http://www.universetoday.com/18097/the-earth-goes-around-the-sun/>

Yes, and the motion of the universe around the Earth could be equally well calculated if enough time were devoted to it. People have been working at refining the heliocentric model for four hundred years. Imagine how accurate the geocentric model could be today if it hadn't been abandoned merely by philosophical preference at the start of the so-called "scientific revolution."

The only difference between an Earth-centered universe and a non-Earth-centered universe is a choice between coordinate systems! Any modern day scientist who doesn't acknowledge this truth is guilty, at best, of deceiving himself out of ignorance, and at worst, of deliberately deceiving the public.

173.

Most waves are created by motion. A wave in a rope is created by an arm holding the rope and moving up and down. A sound wave is created by motion in the air, or by something “banging” against the air. So what creates a gravity wave? Maybe time creates a gravity wave. When one moment becomes the next, this is somehow akin to “banging” against the aether, or against space, which creates a wave.

174.

Think of electrons in terms of lenders and debtors. Positive = lender, is “owed” lots of electrons, or few electrons, by the negative, or debtor. Current is “how swiftly” the debts are repaid to the lender.

175.

You can divide a bar magnet. What happens to the poles when you divide it down to smaller and smaller sizes, until finally it can’t be divided anymore? What happens to the poles at the point where divisible becomes indivisible?

176.

Inertia is “not go.” Gravity is “go.”

177.

Assume time dilation is true but throw out relativity of simultaneity?

178.

Pioneer anomaly. Universe expanding faster than theorized, according to Yahoo! news story. Connection?

179.

Maxwell’s equations—stationary and on a moving rocket—Maxwell multiplies the magnetic potential of a given point in space—but how can he when the point is in motion and still give the same c ? That’s

what Einstein tried to answer.

Stationary, you're dealing with potential of one space point over time. Moving, you're dealing with potential of multiple space points over time. If potential of those points varies, maybe the average comes out to c .

Need to learn meaning of Maxwell's original four equations. How did Maxwell get the value of c out of his equations?

180.

If two differing masses are experiencing the same acceleration, they must be experiencing differing forces (I'm talking about gravity here). The question is, why would they experience different forces? Why is acceleration constant, rather than the force being constant? If gravity is an emanation from something, it seems the two differing masses should experience the same force, rather than the same acceleration. But they don't. If gravity is not due to spacetime curvature, then why the same acceleration?

181.

Somewhere in my notes, I once put forth the notion that light should generate gravity as it passes. Suppose it does, and the gravitational attraction we attribute to be sourced in the mass of the Earth is actually generated by the light that is constantly bombarding the Earth. From all directions, the sun during the day, the stars at night, the Earth is being bombarded by light. Suppose this light as it passes downward to the Earth generates the gravity that "drags" us along with it, making us think we're being attracted to the Earth.

Problems with this notion: what about reflected light? Light isn't just coming inward to the Earth, it's going outward too, being reflected by the Earth. How would this reflected light, or even light shining from light bulbs and such, affect the notion that it's the incoming light that generates gravity?

Also, what if you're in a completely dark room, shielded from the sunlight or starlight? Shouldn't that mean you would feel no gravity?

NOTE: I think when I earlier mentioned the notion of light generating gravity, I didn't actually say it generated gravity, but rather should induce acceleration, which is, in effect, the same as generating gravity.

182.

An electromagnetic pulse that inverts the gravitational polarity of an object.

A rotating object will fall slower than an identical non-rotating object, because the gravitational poles in the rotating object will occasionally be pointing in the opposite direction.

Can an object be “gravitized” similar to the way an object can be magnetized?

Would it take a larger mass longer to be “gravitized” than a smaller mass, due to the fact that the larger mass has more atoms to “gravitize”? Maybe, under the influence of gravity, a larger mass accelerates at the same rate as a smaller mass because the atoms of both objects “gravitize” at the same rate, so each mass has the same number of “gravitized” atoms at any given time, and the larger mass has more atoms to “gravitize.”

If the above is true, then theoretically, there should be a point (when all of an object’s atoms are “gravitized”) where the object will cease accelerating under gravity, while a larger mass will continue accelerating until all of its atoms are “gravitized.”

183.

Consider the old saying that if you know the position of an object, then you can’t know its momentum, and vice versa. That is, according to quantum mechanics, it’s impossible to know both the position and the momentum of an electron.

The reason for this is simple and obvious. Position is a purely spatial attribute. Momentum is a purely temporal attribute. For position, you merely state one location. For momentum, you state one location at one time, and one location at a subsequent time.

In other words, the determination of momentum requires determination of velocity, which requires two measurements of position: initial spatial position and one subsequent spatial position. Momentum is two positional measurements, separated in time. Position is one positional measurement, not separated in time.

So of course if you know an object’s position, you can’t also know its momentum. If you know its momentum, you’re saying that the object is here, and then it is there. With momentum, it’s not in one place. With momentum, you’re not determining precise spatial position; you’re determining two or more spatial positions over time. Position and momentum are thus obviously two separate phenomena, one purely spatial and one temporal, and it should be obvious that you can’t know both together.

If you say definitively, “Object X is here,” then the object is motionless and cannot have momentum.

Position is a constituent of momentum, so of course you can’t know momentum if you know position. Look at the equation for momentum $p = mv$. $v = (\text{position } 2 - \text{position } 1)/t$, so the equation becomes $p = m(\text{position } 2 - \text{position } 1) / t$. So if you consider position 1 or position 2 by themselves, of course you

can't know the momentum of the object.

Position is something a particle can have instantaneously. Momentum is NOT something a particle can have instantaneously. Momentum is a property extended in time, position is not. A particle can have a definite location at an instant of time; a particle cannot have a definite momentum at an instant of time. A particle can have a definite momentum over time; a particle that has momentum cannot have a definite location over time. Position and momentum are mutually exclusive. It's not a mysterious phenomenon that's difficult or counterintuitive. It's completely obvious.

So what about an object that stays in the same location, but we consider it over a time interval? We're making the same sort of measurement we make when determining velocity, only the object has stayed in the same location.

For example, with momentum, we're saying, "At time 1, Object X is at location X, and at time 2, Object X is at location Y. This, therefore is its momentum: ____."

But take an example where we say, "At time 1, Object X is at location X, and at time 2, Object X is at location X." We're making the same sort of measurement as above, yet there is no change in position. But how can we then say we know the object's position, if we've taken the positional measurement at two different times?

When we say we know the object's position, and it remains the same as time passes, how is this any different than if we were to say we know the object's position, and it changes as time passes?

The above thoughts are connected to my notion that all motion is through time, and that each moment of time is also a new space, so that, essentially, we can never even actually know an object's position, because when we say that, "Object X is at position X," and later refer back to that statement, even though the Object X still appears to be motionless, Object X can no longer be at position X, because position X is in a prior moment of time, such that our original statement, "Object X is at position X," no longer applies at a subsequent moment.

In other words, what I'm saying is that the statements, "At Time 1, Object X is at Position X," and "At Time 2, Object X is at Position X," actually refer to two separate spatial locations. Normally we would say that such an object is motionless and has no momentum. But isn't it possible that, even though it appears that the object has not moved from one moment to another, it actually has some sort of undefined momentum, because it is now in a different spatio/temporal location, and thus it is impossible to truly know what an object's position is, even if it appears to be motionless?

184.

We say that there are separate elements, like hydrogen, helium, carbon, etc. There are also different states of matter, like solid, liquid and gas. Suppose in the same way that there are not separate elements, but rather different states of the same element. What I mean is, what if everything is hydrogen, but in a

different state, similar to solid, liquid and gas? Suppose we view every state of hydrogen as a different element? Suppose carbon is actually the sixth state of hydrogen? I'm not talking about number of electrons. I mean, suppose that the element we think of as carbon, having six electrons and six protons, is in actuality a sixth state of hydrogen, with properties that appear as if it has six protons and six electrons? After all, the standard atom is actually just a model, a way of picturing an element. But maybe we're thinking about elements the wrong way. Maybe there is only one element, with many different states, just like water has different states: ice, liquid and vapor? Just a thought.

185.

Try this: when measuring the speed of light, we're not measuring an object moving through space. We're measuring the interval between a cause and an effect. The cause is a change in an atom that has been interpreted as a photon emission. The effect is a corresponding change in a second atom, which we have interpreted as an absorption or a deflection of the photon supposedly emitted in the cause. When we measure the speed of light, we're measuring a process, an event, not an object. The process, the event, is a change in the states of two atoms. My concept of the Distance X somehow ties in here. If an object can only manage to travel, say, 1.86 miles before one moment becomes the next, then the cause (emission) and the effect (absorption or deflection) are going to be related somehow by the Distance X or its temporal equivalent, since the cause and effect must necessarily be separated by the smallest unit of time. If one atom changes, a second atom cannot possibly change in response until the next successive moment. In other words, a cause and its effect obviously cannot coexist in the same instant of time, but rather, the cause will exist in one moment of time, while the effect will exist in the immediately successive instant, or in a more distant successive instant, each instant being a multiple of the Distance X.

186.

The slow build up of an interference pattern in Young's double slit experiment is due to static. What I mean is, when you monitor which slit the photon goes through and it shows up in a definite position on the detector, but over time thousands of monitored photons build up an interference pattern, what's happening is that light is always a wave, but the "monitoring" of the wave interferes with the wave so that only a portion of it gets past the monitoring device or slit. Only part of the signal gets through, but over time, enough signal gets through to build up the expected interference pattern. Like listening to a "staticky" radio signal. You're getting hiss and signal breakup, but enough of the signal gets through that you can still hear song or the person speaking, but it's choppy, or staticky. That's what's happening with the double slit experiment.

187.

Wave kinesthesia - an EM wave is always aware of the position and movement of itself.

188.

I have a few things that need to be pointed out regarding the Doppler effect as it applies to light.

Currently, if we look at http://en.wikipedia.org/wiki/Relativistic_Doppler, in the situation where a light source is moving with respect to the observer, the Doppler effect arises due to the classic Doppler model.

But if the observer is in motion relative to the light source, the Doppler shift arises basically due to the aberration of light.

POINT ONE: In relativity, a distinction is made between whether the light source is moving, or whether the observer is moving.

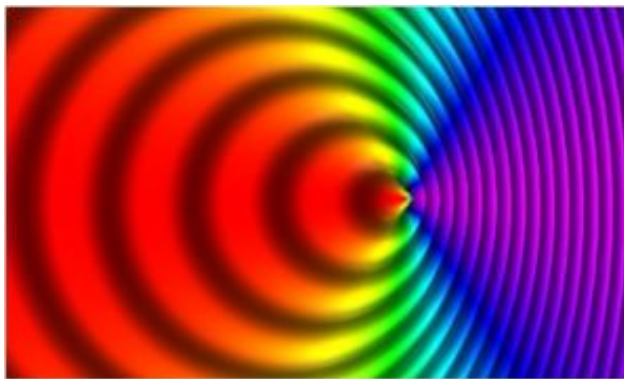


Diagram 1 from wikipedia.

From the above web page: “Diagram 1 shows an emitter traveling to the right, whereas Diagram 2 shows the observer traveling right. While the color shift appears similar, the aberration of light is opposite. To understand this effect, again imagine two people playing catch. If the pitcher is moving to the right and the catcher is standing still, then the pitcher must aim behind the catcher. Otherwise the ball will pass the catcher on the right. Also, the catcher must turn in front of the pitcher, or the ball will hit on the catcher's left. Conversely, if the pitcher is stationary and the catcher is moving to the right, then the pitcher must aim in front of the catcher. Otherwise, the ball will pass the catcher on the left.”

Diagram 1 on the aforementioned web page shows a classic version of the Doppler effect, with wave crests centered on where the emitter was at the time of the emission. The caption on Diagram 1 reads: *“Diagram 1. A source of light waves moving to the right with velocity $0.7c$. The frequency is higher on the right, and lower on the left.”*

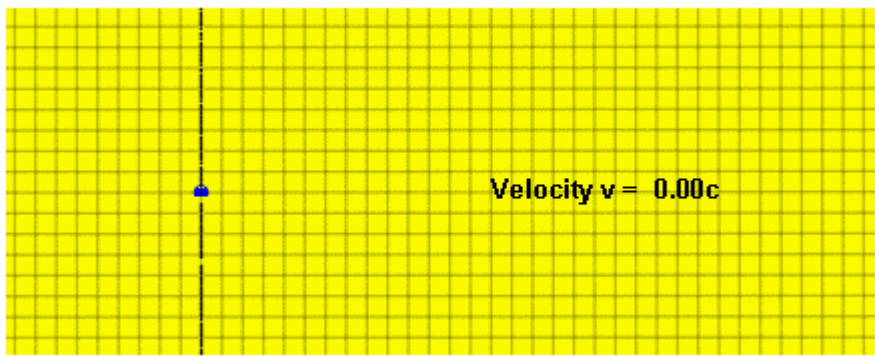


Diagram 2

Now, Diagram 2 shows a weird animated picture of a grid distorting as the velocity of the observer increases. The accompanying note reads: *“In Diagram 2, the blue point represents the observer, and the arrow represents the observer's velocity vector. When the observer is stationary, the x,y-grid appears yellow and the y-axis appears as a black vertical line. Increasing the observer's velocity to the right shifts the colors and the aberration of light distorts the grid. When the observer looks forward (right on the grid), points appear green, blue, and violet ([blueshift](#)) and grid lines appear farther apart. If the observer looks backward (left on the grid), then points appear red ([redshift](#)) and lines appear closer together. Note, the grid itself has not changed, but its appearance for the observer has. The main point in the Doppler Effect is to individualize each wave out sourcing the central point and expanding the wave given due to circulatory vibrations at a certain focal point.”*

Diagram 2 is probably static in this paper, but on the web site, as the velocity of the dot increases toward the right, the grid morphs and the yellow distorts until the colors and pattern matches the spectrum in Diagram 1.

So depending on whether source or observer is in motion, a different mechanism is used to explain how the Doppler shift arises. Source in motion—classic Doppler mechanism. Observer in motion—complicated, contrived relativistic explanation.

I find this distinction extremely interesting since one of the most basic points of relativity is that there is no way to determine which of two objects are moving. For, as they say, it is all relative.

POINT TWO: Relativity appears to be violating its own assertions when it explains the Doppler effect.

I find the distinction extremely interesting because one of the much-touted puzzles that led Einstein to develop relativity was the so-called “magnet problem,” wherein a different equation was used depending on whether the magnet was in motion, or whether the coil of wire was in motion. Einstein didn’t like this, and the “problem” spurred him to develop relativity.

Well, then, is there not a similar “Doppler problem” in relativity? A different explanation for the Doppler is used depending upon whether the source or the observer is in motion.

Food for further thought: Perhaps Einstein never actually resolved the “magnet problem.”

Perhaps the “Doppler problem” and the “magnet problem” are one and the same problem. Einstein didn’t resolve anything. The same problem still exists, if it even is a problem. Seems to me it’s only a problem if you reject absolute motion.

And yes, I realize that according to relativity, you CAN’T say which is really moving. If there is relative motion, you can choose to say either that the observer is moving, or the source is moving. But my points still apply. The relativistic explanation of the Doppler uses different mechanisms depending upon which you regard as moving and which stationary. If you choose the light source as the moving object, then relativity uses the classic mechanism. But if you choose the observer as moving, relativity uses a combination of light aberration, time dilation and length contraction.

Sorry, but there is no way around this. The motion is not relative if your explanation is dependent upon choice of reference frame. There may be relative motion between source and observer, but it’s not REALLY relative, since it is dependent. Einstein is still stuck with the very problem he attempted to resolve.

You can throw all the equations you want at me to show me that it all works out, but your non-mathematical explanation of the concept trumps your equations, because you can literally make equations show ANYTHING.

The very problem outlined above also is at the heart of a further problem with special relativity: namely, the oft-used illustration of the “light clock,” which proponents of relativity always use to demonstrate time dilation. Because, as I shall show, if Diagram one on the above web page is accurate (and if it weren’t then I doubt it would be used to explain relativistic time dilation), then the famous “light clock” illustration absolutely will not work, for if you plug Diagram 1 into the light clock illustration, the light clock’s ticks...Well, at this point, let me pull in my previous explanations of the flaw in the light clock.

189.

Make a table showing proofs for special relativity and proofs for general relativity.

In the case of the long-lived muons (kaons, whatever): why should it be significant that something created or observed in the controlled environment of a laboratory behaves differently than its counterpart out in the real universe? Why is it accepted as proof of special relativity? Isn’t this a case of assuming that a muon created in a laboratory is the “default state” of the muon, and then comparing the “default state” to the accelerated “wild” muons streaking toward Earth? How is that valid?

Think of the conflict between relativity and quantum mechanics like two mutually exclusive clues in a logic problem. One doesn’t disprove the other; they are both clues pointing the way to the solution.

190.

The heart of my disagreement with special relativity is revealed when considering the “light clock” thought experiment that is always used to illustrate why time dilation occurs.

In the thought experiment, the observer in the rocket which contains the light clock reasons thusly: My rocket is stationary, as is the light clock. But the outside observer is moving relative to me. Therefore, the light in my light clock travels a longer path than it does for me, therefore the outside observer is experiencing time dilation.

Meanwhile, the observer outside the rocket reasons thusly: I am stationary, while both the light clock and the rocket that contains it are moving relative to me.

Scratch the above, I can’t find the right way of explaining it. Simply put: regardless of which is moving, the rocket is moving through a space that is contained within the reference frame of the observer outside the rocket. In other words, the smaller rocket is obviously contained within the larger reference frame of “outside.” Clearly, as both observers must acknowledge, the “longer” light path is always in the reference frame of the outside observer.

For motion to occur relative to the rocket, regardless of which is viewed as moving, the rocket MUST be contained within a greater space, else it could not move, and neither could the observer inside the rocket view “outside” as moving relative to it.

The very fact that supporters of relativity always refer to the observer “outside” the rocket acknowledges this fact. Thus, if there is space external to the rocket, then the observer inside the rocket errs when he measures the motion of light (or the lack of it) relative to his rocket. He must always measure light relative to the space external to the rocket.

When there is relative motion between two objects, there is obviously ALWAYS a space external to at least one of those objects, else there could be no relative motion between them. This should be elementary and completely obvious! The observer inside the rocket can never measure the light relative only to the confines of his rocket and claim his measurement is just as valid as a measurement relative to external space!

There are only two possible situations:

1. The rocket is contained within a larger space. Either the rocket is moving within that space, or that external space is moving past the rocket.
2. Both the rocket and the space in which it is contained are themselves contained within a larger space.

If there is an observer outside the rocket, the outside observer is either stationary, in which case his reference frame matches the reference frame of the entire universe, or he is in motion, in which case neither the rocket nor the outside observer can view themselves as stationary.

My whole point is, if there is space external to any reference frame, then that frame can never claim itself to be absolutely stationary. I realize that at this moment any relativist would say, "Duh!" and think I'm an idiot. But what I'm trying to get at is that unless one knows one is in an absolute frame, in cases of relative motion, one can never say that time is dilated

OK. The only way Einstein can get away with it is to assert that the speed of light is absolute. Has that ever been proven? I know relativists claim it has, but I don't think it has. I think the speed of light is absolute relative to a certain frame, the absolute frame, but

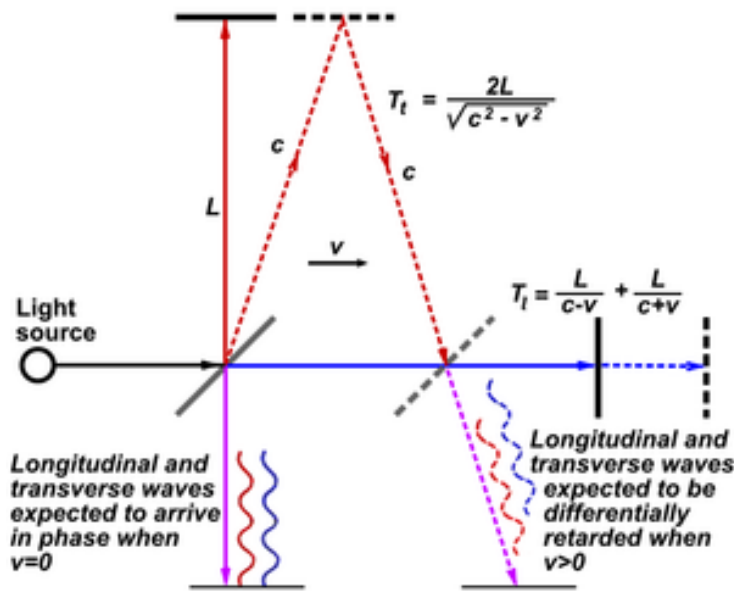
If the motion of the Earth relative to the luminiferous aether has been proven to be undetectable, then Earth is either motionless relative to the aether, or Einstein is correct. There are no other options. Everything I've looked at regarding relativity screams at me that relativity is incorrect. Therefore, in my view, Earth must be motionless, and therefore we must be at the center of the universe. If light speed CAN be shown to be different in different directions, obeying classical mechanics, then Earth IS moving (i.e. interferometers fixed to the Earth detect anisotropies in light speed). Or if light speed is not isotropic only when we are moving relative to the Earth, then Earth is motionless. Either way, relativity is not the answer. Relativity is merely a concoction to rescue us from a motionless Earth; it is an attempt to "jump start" the Earth's motion.

191.

NOTE ON THE FOLLOWING SECTION: I am wrong in this section. I made an error in my understanding about the erroneous equation, and went on a rant about it. But I'm keeping it here for posterity's sake, and also because there was a kernel of truth in this, and I have every intention of continuing along this line of thought eventually, modifying and expanding upon the following writing. But know that I am fully aware that the following is, as it stands, incorrect. But it's the path to something, and I need to save this information.

When Albert Michelson performed his first interferometer experiment in 1881, he was expecting a .04 fringe shift. His expected outcome was based on the following **erroneous equation** for the transverse arm: $T = 2L/C$ (see http://en.wikipedia.org/wiki/Michelson%E2%80%93Morley_experiment)

Here is the wikipedia diagram for the calculations:



As is well known, he did not get the results he was expecting. The greatest average deviation he measured was .018.

It was later pointed out by Alfred Potier that, “When the instrument on the moving earth is observed from a stationary point outside earth, the mirror at b1 already moved to b while light was traveling there from a.” (http://en.wikipedia.org/wiki/Alfred_Potier)

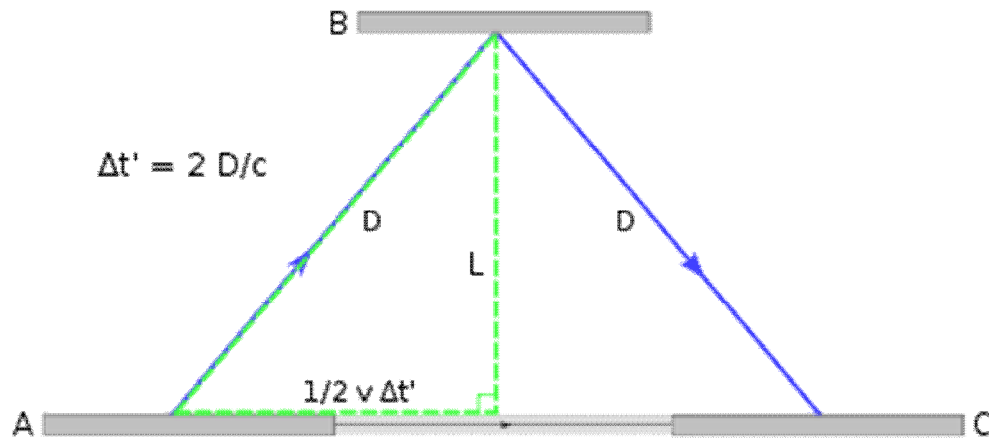
In other words, Michelson ***neglected to take into account the Doppler Effect when calculating the travel time for the transverse arm.***

The **correct equation** for the transverse arm is: $T = (2L/c)(1 + (v^2 / 2c^2))$

Using the correct equation, Michelson should have expected a fringe shift of .02, which was about equal to the estimated experimental errors. Since Michelson measured an average shift of .018, his results were approximately what he should have expected. But since they were within the experiment’s margin of error, the results couldn’t be relied upon.

But note that ***he got approximately what was expected using the correct equations.***

Now then. Let’s take a look at the method that is usually used to illustrate time dilation in special relativity. Below is Wikipedia’s diagram (from http://en.wikipedia.org/wiki/Time_dilation):



Look familiar? It should. It is basically **the same diagram for Michelson's original experiment!** Note that it even contains **the same erroneous equation:** $T = 2D/c$!

Albert Michelson was taken to task for using that incorrect equation in his original experiment. Why is Einstein not likewise taken to task for using the same equation to derive time dilation? It is the exact same experiment, people! It is a pulse of light bouncing between a moving source, a moving mirror, and a moving detector! There is absolutely no difference! Michelson did not get the result he was expecting because he used the incorrect equation! When the corrected equation was used, the expected results were right in line with observation.

How is it then that Einstein can get away with using the same incorrect equation to derive time dilation? Tell me, how? If it is the exact same experimental situation, and Michelson did not get his expected results due to an incorrect choice of equation, how can relativistic time dilation possible be correct, since it is derived using Michelson's incorrect equation? The original Michelson experiment disproves time dilation in special relativity. Why then is the same experimental setup used to illustrate time dilation?

In other words, Michelson's original experiment proved that the diagram in the time dilation article is incorrect. It's the exact same situation as Michelson's experiment, and Michelson proved that it doesn't work like that.

There is undeniably an optical Doppler effect in nature. The equation used by Einstein to derive time dilation does not take the Doppler Effect into account.

The relativist will probably argue that the Michelson diagram relates to an observer or a device moving relative to a fixed aether, whereas the Einstein diagram relates to a stationary observer considering a moving light clock. But this is a specious argument. In the Michelson case, the transverse light pulse "loses ground" on the apparatus, and therefore the light pulse would do the same as seen by a stationary observer considering a moving apparatus, as in the case of the Einstein diagram. The stationary observer in one diagram plays the part of the hypothesized fixed aether in the other diagram. Since in the Michelson experiment, the observations matched the expectations of the equation $T = (2L/c$

$(1 + (v^2 / 2c^2))$, that is the equation that must be used in Einstein's time dilation, not the $T = 2D/c$, which was the equation erroneously used by Michelson.

Perhaps one could argue that Einstein decided to go with the erroneous Michelson equation because the correct equation related to a fixed aether. Since relativity rendered the aether superfluous if not non-existent, Einstein might have figured that the erroneous Michelson equation, which took no consideration of the aether or the Doppler Effect, should instead be used. Which would be an invalid decision, since the Michelson experimental observations were consistent with the correct equation supplied by Potier.

Perhaps the answer can be found in the subsequent interferometer experiments of 1887 (the Michelson-Morley experiment) and beyond. But I don't think so.

In the experiment of 1887, Michelson-Morley give the equation for the transverse arm as $2D(1 + (v^2 / 2c^2))$. Question: ***why is the 2D not divided by c, as given in the correction by Potier for the earlier Michelson experiment?*** If you don't divide by c, you're going to expect a much larger fringe shift. The experiment of 1887 got much smaller fringe shifts than expected. "The actual displacement was certainly less than the twentieth part of this, and probably less than the fortieth part." (**On the Relative Motion of the Earth and the Luminiferous Ether** (1887) by Albert Abraham Michelson and Edward Morley) Could it be that they were, as Michelson had, using an erroneous equation? Using the Potier equation, might their expected results have matched their observed results? I don't know. I'm just throwing the question out there; someone else can crunch the numbers.

But I am willing to bet that they used the incorrect equation, and the Michelson-Morley experiment was not actually the "most famous failed experiment in history." I'm willing to bet that they actually got exactly what they were expecting: detection of motion relative to the luminiferous aether.

The reason the 1887 experimental results are regarded as NULL is because the results were only a fraction of the expected results. But these expectations were based on the use of the wrong equation.

192.

While reading an article (<http://www.wired.com/wiredscience/2013/10/higgs-nobel-physics>) about the Higgs boson receiving the Nobel Prize, I ran across this statement: "...why our reality has the features it does: ...and a particular speed of light."

I've written long ago about why the universe has a particular speed of light (or rather, an ultimate speed limit), but I'll explain it here again. And it has nothing to do with the standard relativistic explanation that things gain mass the faster they go, and hence it would take an infinite amount of energy to accelerate an object to light speed and keep it moving, blah blah blah.

There's no need to appeal to Einstein for an explanation of the ultimate speed limit. He doesn't *really* explain it anyway, because his explanation merely begs a further question, which he doesn't address at all. But I can.

Let's take two points in the universe. Say they're at opposite ends of the universe. You might think that the fastest you could travel between them was simply the crossing distance between them in the smallest unit of time.

But that's not it. *If* light is the fastest anything can travel, then the reason must be that nothing can move farther than the Planck length in the smallest unit of time (the Planck time). It isn't possible to cross trillions of light years in an instant, because you can only move as far as one Planck length in one Planck time.

You can't travel at 100 kajillion miles a second because you'll only be able to get as far as 1 Planck length (or whatever the actual distance turns out to be) before the smallest unit of time passes.

Movement is changing your spatial location over time. Movement is *dependent* upon time. You only have so much time to change your location before the moment passes on. And apparently nothing can change its position by more than a Planck length before the moment passes on.

Here's an even deeper explanation, in case I haven't managed to get my concept across.

In order to get from point A to point B, however far apart those points are, you have to occupy every spatial position in between, and in successive moments of time. You can't "skip" across a spatial location; your presence has to be spatio-temporally "contiguous" across all moments and spaces. And the same portion of you can't occupy more than one spatial location in a single moment. You have to be at point A, here, and then here, and then here, and then here, until you arrive at point B. You can't be here and here, and then here and here, until you arrive at point B. If you cross a certain distance faster than the smallest unit of time (which makes no logical sense, because that would mean you're moving independent of time, and motion depends upon time) then you would, in effect, be in two places at the same time, which is, for reasons that I hope are obvious, impossible. It's like the saying says, "Time is what keeps everything from happening at once."

Let me explore this line further.

Let's say point A and point B are a million miles apart. Let's further say that I have traveled from A to B in the absolute shortest unit of time. There are two possibilities for what we would find in the intervening spatial distance for that instant of time. Either we will find nothing, which means I would have "leaped" discontinuously over the distance; or we will find an incredibly huge number of exact duplicates of myself, each of the separate and distinct units, yet somehow physically connected.

And in the case of the latter, it would not be a situation similar to the blades of a fan, which only seem to be in multiple places at once. If you narrow the time span continuously, you would eventually reach a point where the blade is found in only one location. But in the latter situation of my crossing from A to B as above, we're already considering the shortest unit of time, which you couldn't subdivide further. In that case, the object in question, that is to say, myself, would actually be in multiple places at once.

Since changing an object's location by a million miles without being somehow associated with the entire intervening space seems on the face of it physically impossible, then it must be that our second

option is what we would find. Since it seems equally impossible that I could be in multiple places in the same instant, it would seem that we must discount the second option as well.

From this it follows that it should only possible to shift an object far enough in a single instant of time such that it would not duplicate itself. Since this applies to the tiniest bit of matter possible, it also follows that no object, no matter how large, could shift itself farther than a microscopic distance in the shortest unit of time, since merely moving a few microns in an instant will duplicate every atom in a person's body. Therefore, nothing should be able to travel faster than the Planck length in the Planck time, assuming the Planck length and the Planck time are the smallest possible subdivision of space and time.

As a sidebar, consider this connection to relativity: let's say that the second option is possible, and in the shortest instant of time I have shifted my spatial location by a million miles, and in doing so, for that single instant of time, I have become this unimaginably huge creature consisting of an uncountable number of discrete duplicates of myself that are yet physically connected. I have literally gained an unimaginable mass in that instant of time. This, then, would be the explanation for why relativity says an object gains mass when it accelerates.

But — from where does the new mass come? If it's a rocket or some other thruster that accelerates me the million miles, how does a rocket merely pushing against me cause me to literally gain mass? In one instant, an unimaginable amount of mass is basically created *ex nihilo*, in violation of accepted physical laws. This, then, also precludes the second option from being viable.

My point is, the explanation of why light has a certain speed isn't puzzling, as it sounds in the above-mentioned article.

And note that I'm not claiming that I believe nothing can travel faster than light. I'm just saying that there definitely **MUST** be an ultimate speed limit in the universe (which may or may not be light speed). It should be completely obvious that there **HAS** to be an ultimate speed limit. It should be completely expected based on the undeniable passage of one moment into the next.

Relativity's explanation for why nothing can travel faster than light is really a non-explanation, because it doesn't answer the obvious question it raises, "What's so special about light?"

My answer to "What's so special about light?" would be that if light is truly the universal speed limit, it's not because of light itself, but merely because light happens to be traveling as fast as anything can due to the passage of time.

193.

All experiments to date have been performed with Earth as the "base" reference frame. Indeed, the only experiments it will ever be possible for Earth humans to perform will have Earth as the "base" reference frame.

For example, let's say that humanity sends a probe accelerating into the universe, shooting the probe

its own reference frame. Experiments performed on the probe, from within its own reference frame, then seem to support relativity.

Not so fast. The probe's apparently independent reference frame is actually still "tied" back to Earth, since we can trace its route to Earth, and have verifiable records that the probe accelerated away from Earth. Therefore any experiments done on the probe are not truly independent of Earth's reference frame.

Such a situation is readily accepted in the so-called "Twins Paradox" of Special Relativity: we are able to tell which twin really aged less because the twin in the rocket accelerated away from Earth, and then accelerated again on its way back to Earth. Thus, in the Twins Paradox, Earth is still the "base" reference frame.

For any human experiment performed anywhere in the universe, Earth will always be the "base" or absolute reference frame. Even if Special Relativity is correct, humanity will never be able to prove it, because every reference frame into which humanity goes will always have to defer back to Earth as its absolute frame.

This is why Special Relativity will always require the leap of scientific faith embodied in the "Copernican Principle," wherein it simply has to be accepted as given truth, with absolutely no proof or possibility of proof, that the Earth is not the absolute reference frame.

This is why acceptance of both Special Relativity and a non-Earth-centered universe will always be less scientifically "honest" than rejection of the same. All the experimental evidence humanity will ever be able to gather will ALWAYS better fit an Earth-centered universe. Extending the evidence any further will ALWAYS require the application of the Copernican Principle, which has absolutely no scientific, experimental support behind it. Thus, both Special Relativity and heliocentrism must be considered unscientific points of view.

This is the argument that Relativists and Heliocentrists must make: "All the evidence supports an Earth-centered universe, but we prefer a non-Earth centered universe, so we're going to say, against the evidence, that Earth isn't at the center of the universe, and we'll ridicule anyone who says otherwise." Because in the end, ridicule is the only weapon mainstream science has to combat and refute geocentrism.

194.

If all the evidence pointed to the Earth being at the center of the universe, why would scientists not acknowledge it?

Because proponents of the heliocentric view received such persecution from the Church that when the world's viewpoint finally swung in their favor, they felt they had received a great victory. Several hundred years after that great victory, the evidence actually swung against the heliocentrists. But they'd been so

traumatized by the Church's persecution that they refuse to go back to it.

Well, if your people had been persecuted by the Church and you were still whining about it four hundred years later, would you want to turn around and say, "Hey, turns out you guys were right after all."

195.

According to General Relativity, gravity is caused by a curvature of spacetime. Earth's mass distorts the spacetime surrounding it, causing objects to accelerate toward Earth. So if I'm holding an object in my hand and let it go, the curvature of spacetime between the object and the Earth causes the object to accelerate downward.

We're all familiar with (I assume) the picture of Earth sitting at the center of a dip in a tablecloth or a grid or what have you, which is often used to illustrate how Earth warps spacetime.

Now, I have issues with this view of gravity, since some sort of force is still needed to send an object moving "down" the curvature toward Earth. Otherwise, if I let something go, as described previously, why does the object not just "sit" at a point on the curvature? What makes it go "rolling" down the curvature toward Earth, which we see as gravity? It seems to me that the standard relativistic explanation is no explanation at all, because you still need some sort of force to set the object "rolling" down the curvature.

Now think of this. The Earth is moving through space (allegedly). So theoretically, someone could say that that answers my question about the curvature. Earth moves toward the object I've just released, mimicking gravity. But again, this explanation is obviously flawed, since it then negates the need for spacetime curvature to explain gravity. Also, it only works for objects that are in "front" of the Earth, in its path. Objects "behind" Earth, when released, would recede from Earth, or rather Earth would recede from the object, giving the appearance of anti-gravity. Also, this attempted explanation doesn't work because the object in question already shares the (alleged) motion of the Earth due to classical, Newtonian physics. So there's not the slightest hope of an explanation here. Absent gravity, if I let go of an object, it will continue in motion with the Earth, appearing to hover next to my hand. Which is precisely my point with the spacetime curvature explanation as well. What makes the object accelerate "down" the curvature?

Anyway.

In General Relativity, the cause of gravity is attributed solely to spacetime curvature. Let's ignore my question as to what causes an object to accelerate down the mass-induced curvature, and just accept that curvature somehow translates to acceleration, which we view as gravity, and that spacetime around Earth is curved.

And here is where I've been going with all the above:

Earth is allegedly in motion. This means, obviously, that the spacetime "dimple" in which the Earth

sits is moving through spacetime as well. What this means is that the edge of the dimple in the direction of the Earth's motion is sort of "bowing in," for want of a better description, while the edge of the dimple "behind" Earth is "springing back" into its standard position.

In other words, if gravity is due to curvature of spacetime, and Earth is in motion, then, depending upon whether an object is fore or aft of the direction of Earth's travel, the spacetime curvature between that object and Earth is warping in a different "direction." On one side of the Earth, spacetime is warping, while on the other side, spacetime is unwarping.

See, the spacetime curvature around Earth is not static. For an object to the fore of Earth, the spacetime curvature between it and the Earth is warping "downward," while for an object to the aft of Earth, the spacetime curvature between it and the Earth is warping "upward."

As an analogy, think of two buoys in the water, with a wave moving past. The buoys will not bob up and down in tandem. First, one buoy will bob upward as it encounters the wave. When it reaches the crest, it will begin bobbing back down, even as the second buoy begins bobbing upward.

So at any given time, the spacetime curvature between objects ahead of Earth and behind it is not equivalent. To the fore of Earth, the curvature is "bobbing upward," while to the aft of Earth, the curvature is "bobbing downward." Or vice versa.

In a static model with a motionless Earth, the curvature would be equivalent all around Earth. But in a dynamic model, with a moving Earth, the curvature is *not* equivalent all around Earth. And it's hard to believe that this lack of equivalence in curvature would not have some sort of effect on the force of gravity.

What I take this to mean is that the force of gravity acting on an object to the aft of Earth will be weaker than the force of gravity on an object to the fore of Earth.

Of course, the Earth is allegedly rotating, which complicates the picture. But not beyond hope of reducing the "noise" to detect the difference due to Earth's motion.

But I predict that a satellite in a stationary position in the direction of Earth's alleged motion, not rotating with the Earth but traveling at the same speed, such that it maintains a constant distance from Earth while remaining within Earth's path through space, will measure a slightly stronger force of gravity than will a satellite in a similar position trailing Earth through space.

Here is a more refined prediction: at any given location along the equator, the force of gravity will be strongest at local dawn, and weakest at local sunset. Or vice versa, depending upon whether an increasing warping of spacetime corresponds to increasing gravity or decreasing gravity.

Of course, this increasing or decreasing warping could manifest as some property of gravity other than strength or weakness. If what we experience as the "attractive force" of gravity is curvature or warpage, then a dynamically-changing warpage could be some other gravitic property.

Anyway, moving on.

The view or model that I've put forth in the preceding is basically this: we have a spacetime Point A

that lies ahead of Earth in its orbit. As Earth approaches this Point A, A will begin warping, curving. Point A's warpage will increase until it reaches a maximum when it is aligned with the center of the Earth. Once Earth's center begins moving past point A, point A's warpage will begin decreasing, until it reaches its "default" warpage, i.e. it will return to the state it was in before Earth's approach.

Now, the relativist will object that I'm taking an absolutist view of spacetime. The real model should be this: the spacetime Point A, rather than being embedded in an absolute space as I've described, is actually just a point which maintains a constant distance from Earth. Thus, all the way around Earth, we can imagine a variety of such points, whose curvature or warpage depends only upon their distance from the center of the Earth, which remains constant.

In this relativist view, if we adopt the perspective of an outside observer, say one attached to the Sun, we will see Earth moving through space enshrouded by a "cloud" of spacetime points which maintain a constant position relative to the Earth.

In other words, in my absolutist view, Point A is embedded in an absolute space, with a constantly changing position relative to the moving Earth, while in the relativist's view, Point A moves along with the Earth, maintaining a constant position relative to the Earth.

In the relativist's model, spacetime around the Earth will not be dynamic as I've described. It will be static. The relativist simply says that at any given distance from the Earth (or any massive object), each point in spacetime will have a slightly different degree of curvature, but the degree of curvature does not change, nor does the position of the spacetime points.

In my absolutist model, Earth (or any massive object) is moving against a backdrop of spacetime points, and the curvature of these points changes as Earth (or any massive object) moves past.

So in the absolutist model, the position of spacetime points can change with respect to massive objects, while in the relativist model, the position of spacetime points *cannot* change with respect to massive objects. But both models agree that spacetime points can have differing degrees of curvature.

In effect, the absolutist model holds that gravity (spacetime curvature) is absolute, while the relativist model holds that gravity (spacetime curvature) is relative. In the latter model, spacetime curvature is relative to whatever massive object is under consideration.

These are the only two options I can see. Spacetime curvature is either static and carried along with an object and is not connected to anything external, or it is a dynamic effect in an elastic medium. Put another way, we can imagine a bunch of boats moving about on a lake, causing ripples in that lake as they move; or we can imagine a bunch of boats, each of which is surrounded by its own ripples, but there is no water and there is no lake.

I urge any reader to think long and hard about this, because I may not have explained it well, but I know I'm right. Try to picture what I'm seeing. There shouldn't really be anything controversial here.

But if we look at the usual descriptions or illustrations of curved spacetime as put forth by the relativists themselves, it is apparent that they're looking at spacetime curvature from the absolutist

viewpoint. In which case, there MUST be some difference in gravity depending upon whether gravity is measured in the direction of Earth's motion, or opposite the direction of motion.

Of course, the relativist will say that there *shouldn't* be a difference, since that would mean that we've detected absolute motion. In which case, they will be forced to abandon the standard illustrations of spacetime curvature, such as the oft-used illustration of Earth rolling across a flat, grid-lined surface, with the grid lines curving downward as Earth rolls across. You know the one I mean.

Adopting a relativist view of spacetime curvature also forces us to abandon the assertion that spacetime curvature is dynamic, or changing. Think about it. If the spacetime Point A remains at a constant distance from Earth, and curvature equals gravity, then in an absolutist model, the curvature of Point A cannot change, for if it did so, the gravity at a specific distance from Earth would be constantly increasing, and would soon reach infinity. In other words, a relativist view of spacetime curvature does not work. The only way a curved view of spacetime is feasible is if we allow that Point A changes its position relative to Earth, and its curvature either decreases or increases depending upon whether its distance from Earth is increasing or decreasing. The only way for gravity to stay the same at all points is if one point receives a certain degree of curvature, then moves aside and another takes its vacated position, receiving the same amount of curvature.

There must be a continual cycling of spacetime points, or else the strength of gravity at any given location will quickly spiral beyond all physical possibility.

So the standard relativistic explanation of gravity as spacetime curvature demands that we adopt my absolutist model, which leads us to the detection of absolute motion, which leads us to the destruction of relativity (special relativity, at least).

So let's say that we perform experiments and find that there is no difference in gravity when measured from the direction of Earth's motion and the opposite direction. What would such lack of difference mean? It would mean that relativity is not a correct theory. And if such a difference *were* detected, it would mean that special relativity at least must be rejected, since absolute motion has been detected.

Either way, relativity is once again doomed.

OK. FORGET the part above about gravity constantly increasing and spiraling to infinity. I see my error there now. But this is exploratory writing, after all. I'm trying to clarify my thoughts here, and follow them to where they're leading. But I'm leaving the error in case maybe later I decide I was right in the first place.

But - to continue - the spacetime curvature at Point A or any other point still cannot remain static. The curvature has to be able to change. For instance, let's say we have a Mass B sitting at a distance from Earth, stationary relative to Earth. Ignoring the principle that the gravity of every object is felt throughout the entire universe, there is a point where Earth's gravity is essentially negligible and Mass B will basically be in a non-gravitating, "ground" state where Earth has no influence on Mass B. For ease and the sake of

this argument, we're also pretending that all other nearby masses aren't affecting Mass B. Now, unless we're subscribing to the absolutist view that all spacetime points are embedded in an absolute sort of "gravitational" space, there should be no reason that Mass B will be gravitationally affected by the approach of Earth. For gravitic spaces cannot be contiguous in a relativist view of gravity, because if Earth's Point A is somehow connected with a similar Point A of Mass B, then gravitational space once again becomes absolute. So the curvature of one mass's spacetime should not be felt by another mass.

Therefore we're forced back to my absolutist model spacetime.

Back to my Mass B. If Earth approaches Mass B and gravity works, which it obviously does, then common sense says that the Point A associated with Mass B, provided it is between Earth and Mass B, will feel the effects of Earth's gravity before Mass B does. In other words, the curvature of Mass B's own Point A will change. And since Earth's own Point A also lies between Earth and Mass B, then Mass B's Point A is actually be responding to the curvature of spacetime at Point A, rather than responding directly to the mass of Earth. Which will confirm that the two seemingly relative spacetimes are actually part of one absolute spacetime, which is the medium for gravity.

From this it follows that Earth's own Point A, rather than remaining static, must constantly be changing due to the approach of Earth. Which itself means that Point A cannot be stationary relative to Earth, but rather is behaving exactly as I outlined in my absolutist model, namely that all points are stationary and embedded in a "gravitic" spacetime, and the curvature of each point changes according the approach or recession of any given mass.

Why do I say that this proves that Point A must be constantly changing due to the approach of Earth? Because since curvature, not just mass, obviously must be able to curve spacetime, and the outer edge of Earth's curvature first affects the outer edge of the curvature around Mass B, this can only mean that the curvature caused by Earth is advancing ahead of the Earth, curving spacetime ahead of Earth. This means that Point A, if it is on the lip of Earth's curvature, will "drag down" an uncurved point immediately in front of it, while Point A will be "dragged further down" by a point immediately behind it and closer to Earth. Ultimately this means that if spacetime curvature truly is seen by us as gravity, then it must work according to my absolutist model.

In other words, the fact that two masses can interact gravitationally proves that gravitational space must be absolute in the manner I've described. Masses can't carry their own curvature around with them in the relativist fashion. If they did, gravity would not work. And since gravity obviously works, it must be absolute the way I've described.

I guess it's a bit like a wave in water. The actual wave is an abstraction; it's a sort of optical illusion. In reality, all that exists are individual water molecules moving up and down or forward and backward, within a limited range. A wave does not consist of a mass of water molecules being swept along for enormous distances. An ocean wave itself may travel hundreds or thousands of miles, but the individual water molecules comprising it merely briefly bob up and down or back and forth, within the space of a

few inches or feet.

The relativist view of gravity pretends that the abstract wave in gravitational space is the reality, when in fact the opposite is true: a portion of gravitational space merely does the equivalent of bobbing up and down as a mass passes. Or, if the mass stays in one place, that portion of spacetime stays “depressed.” Once the mass moves away, that portion of spacetime “springs back” to its normal position.

Okay. That’s my initial writing on this subject. And it’s another disproof of relativity. Experiments will either show that gravity is different depending upon whether it’s measured along the direction, or opposite direction, of Earth’s motion, thereby detecting absolute motion and disproving special relativity. Or experiments will show no difference, thereby proving that gravity cannot work as Einstein theorized, thereby disproving general relativity.

Or...experiments will show no difference, providing support for the view that Earth is motionless at the center of the universe.

Either way, relativity is doomed.

Someone may still object that the degree of spacetime curvature all around the Earth is still the same, even if spacetime curvature works as in my absolutist model. The curvature will be the same regardless of whether one adopts an absolutist or a relativist model. This is true. But such an objection misses one of my main points: in the absolutist model, there’s a dynamic other than degree of curvature at work. In the absolutist model, there is an actual absolute Point A (many more than one point, of course) past which Earth is moving.* This Point A will gradually increase in curvature as Earth approaches, reaching a maximum when it coincides with Earth’s center. Then it will begin decreasing in curvature as Earth moves away from it. In essence, on one side of the Earth, we will find a stream of points increasing in curvature as they move toward Earth’s center, or at least toward a central plane perpendicular to the line of Earth’s motion, and then decreasing in curvature once they pass the center. There’s an asymmetry which should surely be manifesting as some detectable physical phenomenon.

* It’s important to note that this point is not some sort of particle; it is not accelerating as if drawn toward Earth by gravity; it is gravity itself, or curvature of spacetime. Let’s not confuse the two. I’m not postulating a new particle here. Strictly speaking, this wouldn’t even actually be a point; it would be a relatively large region of spacetime encircling the Earth. You know, like any point at a particular distance from the Earth (which distance would constantly be changing). The curvature of spacetime in this entire region would be changing mostly identically as we followed Earth’s journey through space.

Of course, all this brings up something for further consideration: people and things that are parallel to Earth’s direction of motion, or its opposite, will be passing through warping space that is descending on them from above, or receding upward from them, depending upon which side of the planet they’re on, while people and things that are perpendicular to the direction of motion, or its opposite, will be passing through warping space that is approaching or receding from the sides. So in addition to whatever sort of effects might arise from approaching or receding warpages, we also must consider from which and into

which direction the warpages are approaching or receding. Simply put, in the absolutist model, the warpages would not all converge upon the center of the Earth, or whatever mass is being considered. This should be a clue that perhaps we aren't looking for variations in the strength or weakness of gravity in a particular direction, but rather some other property of gravity.

What other properties of gravity are there?

**Temporgravitism
and
Other Speculations of a Crackpot**

INTRODUCTION

This book is a hodge podge of ideas that I have written down over the years. Some of them are little snippets of thought that have occurred to me and haven't been given much thought beyond a few paragraphs, and others I've attempted to develop into full-blown theories.

This book is not meant to describe a single theory, with each chapter attempting to explain a facet of one overall theory. There may be connections between ideas in separate chapters, but don't look for, or assume, such connections. Rather, regard this book as a series of speculations that I've written down over the years. An idea I've attempted to express in one chapter may build upon or complement an idea in another chapter. Or ideas in separate chapters may completely contradict each other, one having nothing to do with the other, other than that each is an attempt to develop a separate, original explanation for the given topic. Or a single idea in one chapter may contradict itself during my explanation within that chapter. This whole book consists merely of numerous idle speculations, by someone who recognizes that there is a profound problem with modern physics, and that unusual ideas are needed if these problems are ever to be resolved.

A lot of these ideas revolve around Time. Time fascinates me. It haunts me. It's the greatest mystery of the universe. And physics has no idea what it is. Sure, Time appears as a factor in many physical equations and theories, but physics has no explanation for *what time is*. I believe an understanding, an explanation, of Time is crucial to any valid physical theory. Hence, to me, no physical theory that attempts to explain *anything* can be valid unless it includes a correct understanding of and explanation for Time, beyond including it as a mere mathematical factor. Mathematics never *explains* anything. It *describes* things or events, such as a calculation of how long it will take a rock of a given weight to fall to the Earth from a given height. It does not, and never will, *explain* such an event.

Call me a crackpot if you will. I will wear the title proudly. For what is a crackpot, as regards the scientific community, if not someone whose ideas are so completely outside the mainstream as to seem absurd to those who are so indoctrinated by mainstream dogma that they're unable, or unwilling, to think "outside the box." A crackpot is a scientific heretic, a mind that has not been brainwashed by the scientific priesthood into believing that *Currently Accepted Theory* is an edifice that cannot and should not be questioned under any circumstances, or at least only under circumstances that the priesthood considers valid. Heresy is what is needed in modern physics.

Do I believe in my theories? Some of them, the ones that lean toward physical speculation, I believed in at one time, but probably no longer do. Others, the ones that lean more toward philosophical ranting, I probably do still believe in. Currently, as I'm preparing this for publication, I believe in a theory of Time that combines elements of J.W. Dunne and P.D. Ouspensky, namely, that Time as we know it does not actually pass. Each moment, each Now, is eternally existent, "flowing" in a direction at a right-angle to the Time we all know and love. Time doesn't flow from past to future; rather, every instant of our lives

exists as a single instant of a Time flowing at a right angle to the Time of our experience, which seems to flow from past to future. I've written a little on this theory in the present book, but someday I hope to devote a whole book to the subject, because belief in this theory is where all my speculations and various readings have led me, and I believe it is the correct view of Time.

Anyway, read this book with an open mind. If you *are* reading this book, then you too are probably a crackpot, and have got your own theories. If you're like me, you enjoy reading about, and are open to, the unconventional ideas of other crackpots, no matter how insane they may seem, because they at least get you thinking in ways, or about things, you may never have before. Maybe you'll take some of my ideas and blend them with your own. Maybe you'll reject them completely and have yourself a good laugh at my foolishness.

And if you do have your own theories, *please* write them down and share them with others. I don't care if you're Walt the janitor or Professor Dingle of Princeton. Dare to be scientifically insane, and share your insanity. If nothing else, you can go to sleep happy in the knowledge that you've pissed off someone in the scientific priesthood. They *hate* it when crackpots spout their "theories."

Where are all the equations?!

This book contains no math because it isn't necessary for the understanding of the concepts I'm attempting to present. One of the biggest foolishnesses of modern science is that its practitioners seem to think a theory can't have any validity unless there are page after page of equations to support it, and so refuse to seriously consider any "mathless" theories. The truth is, whether any scientist chooses to admit it or not, math is completely unnecessary for the comprehension of *any* theory, whether it's Relativity, quantum mechanics, or any of the more esoteric (and wrong-headed, in my opinion) theories being floated around the scientific community these days. Certainly math is required if one wishes to test the predictions or applications of one's theory, such as calculating how far a bullet of a certain weight and a certain initial impulse will travel before falling to the ground. But to understand the *concepts* underlying any theory, math is completely superfluous. Simple verbal description is all that is required, and would seem to be the best method of disseminating the theory to the largest possible audience, since verbal description is accessible to both scientist and non-scientist alike. Anyone with reasonable intelligence can understand the written word, but only a small fraction of humanity schooled in complex mathematics could understand a theory described solely in mathematical terms. A scientist's refusal to look at a particular theory because it's presented without any sort of math, and is thus deemed "inelegant" and must have been conceived by a poorly educated person, an amateurish "arm-chair" scientist, is nothing more than baseless intellectual snobbery on the scientist's part.

1.

I'm sure we're all familiar with the method used to teach people to imagine the properties of the dimensions beyond the alleged three dimensions of Space: we're told to reason from analogy, by first imagining beings who inhabit a line, a 1-dimensional world, where everything only has Length. Then we expand the analogy to beings inhabiting a plane, which is 2-dimensional, where everything has Length and Width. Then comes our familiar three dimensions. And at each stage we imagine what it must be like to live in each world, and using this knowledge, try to imagine a four-dimension-or higher world. Then we have the famous (or infamous) world where we have our familiar three spatial dimensions, as well as six additional dimensions that somehow curled up tinier than atoms shortly after the Big Bang. In each case, the term dimension is used to refer to a discrete entity with unique properties, the addition of which dramatically alters our universe.

We're taught from childhood, and so pretty much take as given, that there are three dimensions of Space: length, width, and height. Traditional wisdom holds that objects are extended in these three dimensions. But: are there *really* three dimensions? If we choose any point in space and attach three arrows, each at right angles to all others, to that point, we label each arrow, accordingly, length, width, and height. Such is what we mean when we say there are three dimensions. But upon consideration, are these dimensions not arbitrary? If we turn the point, its attached arrows turn with it, and each arrow will then be pointing in a different direction, i.e. the dimension previously labeled length will now be height, and height will now be width. Each "dimension" is the same as all the others, differing only in the labels we attach to each, and the position of each such attachment depends only upon where we choose to place the other two labels. We could just as easily, and with as much justification, attach additional arrows to our three, arrows at half-right-angles (diagonal) to the original three, and label these arrows something such as crosswiselengthwidth, crosswiseheightlength, etc. Then we would have a Space that is more than three dimensions.

Another reason Space is said to be three-dimensional is that it takes three coordinates to accurately describe an object's location within space. But this is a fallacy. We could just as easily assign a single, unique number to every position in the entire universe. We would then have a fixed field of numbers designating any possible position within the universe; i.e. one coordinate to describe an object's position. For example, we could then say, "This object is at position 393," rather than, "This object is at $x=45$, $y=-453$, $z=12$." Of course, we would need an infinity of numbers, and we would probably wind up using a three-coordinate system anyway, because the use of such a system would make it easier to describe where position 393 is in relation to everything else. But using such a system doesn't change the fact that associated with every location designated by any three given coordinates would be a single, unique number. Thus, saying that, since we need three coordinates to describe an object's location, space must therefore have three dimensions, is a fallacy, since a single number will suffice just as easily. Our three

coordinate system is just a man-made convention we use to measure space, in the same way that we use hours and seconds to designate time. These are just ways of measuring; they are not inherent properties of Space; just because we use three numbers to designate location doesn't mean that the singular entity we call Space is physically composed of three distinct parts. Rather, since a Spatial location can be described using only one number in the manner just described, it therefore follows that Space itself must be one dimensional.

But wait, the skeptical physicist will say. We could never assign numbers to every location in space as you've described, since we can never determine a frame at Absolute Rest. Everything is in motion, thus any numbers we assign will be in motion as well, and your coordinate system is useless. We have to use the three coordinate system because everything is in motion relative to everything else.

But just because we don't at present have the ability to determine a frame of Absolute Rest doesn't mean that such a frame does not exist. It makes a logical, intuitive sense that such a frame *must* exist, more so than does the absence of such a frame. Therefore I believe that until it can be proven that such a frame *doesn't* exist, we must assume that it does. That shouldn't be a problem; science makes assumptions of this type quite routinely.

I contend that there is really only one dimension of space, and that it is so large compared to us tiny humans that we can move around freely in it. That we say there are three dimensions of space is merely the result of our natural human tendency to label things; but saying there are three dimensions is merely grammatical and mathematical sophistry. There is only one dimension of Space which, for convenience, we break down into an arbitrary three-coordinate system that doesn't actually mean that Space is composed of three separate elements.

If you aren't convinced, ask yourself what is meant by the term "dimension." If the universe is truly three-dimensional as convention holds, should not each dimension be of a separate nature from the others? In other words, absent gravity and other forces, should not my experience of traveling in the "height" dimension "feel" differently than my travel in the "length" or the "width" dimension? Yet they do not. When traveling in any of the "three" dimensions, I can detect no difference from such travel in any of the others. In fact, I only know in which "dimension" I am traveling by arbitrarily choosing one direction and labeling it, then also labeling the two dimensions at right angles to that first arbitrarily chosen dimension. None of the alleged three dimensions of space can be isolated; each is indistinguishable from the others. I can point and say, "This direction is length, and this width." Then an alien could come from a distant star system, point in the first direction I did and say, "No, the direction you named length is width, while your width is height." Who can say which of us is correct? The only apparent way to tell the difference is by examining an object and, if we know which is the front, we usually label front to back as length, left to right as width, and so on. Or we choose the longest section of an object and say *that* is length, and the direction at right angles is width. But in every case, apart from some preconceived notions as to what should be length, width and height, there is really no way to tell the difference between the

three. Thus, length, width, and height are not something inherent in space; they are artificial constructs of the human mind, labels which we insert upon the sole Dimension of Space, namely Extension.

Also, as another proof: when one moves, are you able to move in more than one direction? No, motion is always confined to one direction (unless one has suffered a horrific accident and pieces of one are flying apart from their common center).

So what *would* qualify as a separate dimension from our one dimension of space? The answer is, obviously, Time. We have extension in a one dimensional Space, which we have, following our natural human tendency to label things, broken down (grammatically and mathematically, not physically) into three dimensions, and extension in a one-dimensional Time. Of course, Time can also conceivably be broken down into arbitrary dimensions, such as Present, Past, and Future. But we cannot interchange a dimension of Space for one of Time, in the same way we can apparently interchange the alleged three dimensions of Space. This is why Space and Time each qualify as a separate dimension, while the alleged three dimensions of Space do not.

One could argue that these arbitrarily-labeled dimensions of Time are not actually arbitrary, perhaps, since the Present seems to have a different quality than either Past or Future. But do these arbitrary dimensions of Time pass the “feel” test, as the supposed-dimensions of Space do not? No, because when the Future becomes the Present, it “feels” no different (apart from our moods, or events, etc) than did the previous Present, which has now become Past. In the same way, Space “there” obviously “feels” different to us than Space “here,” but when we move “there” we discover no perceptible difference from “here.” But based on this “feel” test, no one can convincingly deny that our extension in Space “feels” radically different from our extension in Time. Therefore they must be considered separate dimensions.

So, we do not live in a *four*-dimensional universe, as most people would claim (three dimensions of Space and one of Time), but rather a *two*-dimensional universe (one dimension of Space and one of Time).

If you're still not convinced, try this thought experiment: everyone is no doubt familiar with diagrams where a single line drawn on a sheet of paper represents Space, while a line drawn at right angles represents time, i.e. the x-axis represents Space, while the y-axis represents time.

We can do such a drawing and not lose any of the sense of what we mean.

Now, try doing the same drawing, reducing Time and Space to the same one dimensional line, as we've here collapsed the supposed 3 dimensions of Space into one line for convenience. You can't do it without destroying the sense of what you're trying to convey. This is because Space is already 1-dimensional, so we're not actually collapsing 3 dimensions into one.

If Space truly had more than one dimension, the three familiar “dimensions” would not be interchangeable. Each would have a character all unique to itself, something to distinguish it from all other dimensions. We could isolate it. Imagine the spatial universe as an enormous ball, and you're standing outside it (never mind what's outside). You have some sort of universe-sized knife, capable of

carving up the universe. You attempt to lop off one of the dimensions, length for example. But you can't do it. If you try, you also chop off a lot of height and width. There is no way to chop off one "dimension" without touching any of the others. If the spatial "dimensions" were true dimensions in the way physics considers them, beyond the dictionary definition of the word, if we were able to chop off the length dimension from the universe, everyone should only be able to move up/down and left/right. But even were we actually able to lop one of the alleged three dimensions from the universe, we couldn't do it, because we can't point to any definite thing and say with certainty, "*That* is length." Because those dimensions are arbitrary constructions of our mind, in the same way that years, days, hours and seconds are not inherent properties of the universe.

So what's the point of all this? The point is, contemporary science is mistaking the tool it uses to measure Space with an actual, physical property of Space itself. Because by convention we use a three-coordinate system to measure spatial extent, Science has mistakenly concluded that Space is composed of three separate entities that, when combined, make up a 3-dimensional Space. Such thinking implies that Space itself could possibly be taken apart, be broken down into these constituent dimensions, as if each dimension could be isolated and treated as an discrete entity. When in reality Space is elemental. The situation is akin to a chemist treating an element as if it were a compound.

2.

I posted Chapter 1 in an Internet science newsgroup. Here is an objection I received:

>Maybe you should find a better example, like *one that works in the real world!*

And the following was my response.

My example *does* work in the real world. Instead of pretending that the whole universe has been numbered, let's take a simple 5 X 5 field of numbers:

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21 22 23 24 25
16 17 18 19 20
11 12 13 14 15
6  7  8  9 10
1  2  3  4  5

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Let's say we have a marker, P, that we can place on any position in the field. If we put P on, say, 13, we

can either say that P is at coordinate 13, or alternatively, we can attach an x-y axis to the field, with the origin arbitrarily at 1. Then we can say that P's coordinates are (2,2). We could also choose 7 as the origin of our axis, in which case P's coordinates would now be (1,1). In each case $(x,y)=13$. So, it doesn't matter where we choose to put our double axis relative to P; whatever set of (x,y) coordinates we assign to P, unless P moves to another position, (x,y) will always equal 13. All I'm trying to say with this example is that if you're going to base the argument that space is three dimensional on the fact that, since one method of measurement describes the position of P using 3 coordinates, therefore Space must be composed of three separate entities called "dimensions," it's just as valid to say that space is only 1-dimensional, since you can just as easily describe P's position using only one number. I mean, in a three-coordinate system, the three coordinates are given in reference to a *single point*, namely, the Origin.

Further, if space is indeed 3-dimensional as conventional wisdom holds, why should each of these 3 dimensions be exactly the same, with no detectable difference between them, in the way that the dimension of time is so obviously different from space? I mean, when you're moving in whatever direction you choose to call "length," can you detect any physical difference than if the movement were in the "width" dimension? If movement in all three directions feels exactly the same, minus any forces, why should we say that each movement is through a qualitatively different, separate medium? If something looks like a duck and quacks like a duck, why should we say it's three separate bears?

3.

Relativity merged space and time, which were previously considered separate entities, into the singular spacetime. The two were no longer separate things, but rather each were inseparable counterparts of a greater whole.

But time and space *are* separate entities. Time encompasses space; without time, space has no meaning and cannot exist.

Consider: to demonstrate that something has spatial extent, motion is required-- the ability to move and measure dimensions. And motion is not possible without time. Motion requires time. If time were not passing and consequently an object was motionless, the spatial extent of that object would be meaningless, since it could not utilize that spatial extent in any way.

Thought, and hence consciousness, also requires time. It takes time to think a thought; it takes time to read the words on this page and assimilate their meaning. Thought, and consciousness, are not possible without time.

Since Space, without Time, is meaningless and cannot express itself, then Time, whatever its nature, must be separate from Space. Both Time and Space, as shown in the previous section, are each truly discrete dimensions. Furthermore, Time must *contain* Space; a 1-dimensional Space is contained within a 1-dimensional Time; Time is the dimension into which the dimension of Space is expanding. Time,

therefore, is of a higher dimension than Space, and must itself contain Space as a dimension, since each higher dimension contains itself and all dimensions below it as component dimensions. We thus have a sort of dimensional hierarchy, with Space at the bottom, Time at the second level, which is composed of one dimension of Space and one dimension of Time. We can then analogize to determine the nature of higher dimensions. Since both Space and Time are, essentially, dimensions of Extent, we can, until evidence is presented to the contrary, assume that *all* higher dimensions must entail Extent of some manner. The third level of our hierarchy, which is composed of Space and the Time which enfolds it, will consist of a dimension of some sort of Extent which enfolds the lower-dimensional Space-Time conglomerate. This third dimension is a dimension in which Space and Time are somehow extended.

In other words, the conventional view of the universe's dimensions has three dimensions of Space and one dimension of Time, each lying side by side with the others, each of equal stature with the others. But in the view I propose our universe has one dimension of Space (described in the previous section) and one dimension of Time, but rather than lying side by side as equals, Space is nested inside a higher-dimensional Time. And this nesting may itself be nested inside a yet higher dimension of Extent.

If there is a third dimension, we can use the first two as a guide to infer the properties of it, and to examine candidates for this third dimension. Firstly, it must possess Extent. Secondly, it must pervade our universe, being at every place in Space and every instant in Time, since it must completely contain its constituent lower dimensions. And as a consequence of this, it must be something intimately familiar to our everyday experience. It cannot be a dimension which has curled up on itself at the beginning of time, and is so small we can't measure it and aren't even aware of it, a concept which Science so readily and foolishly puts forth and heartily believes in, despite the complete lack of any physical evidence for such a dimension. No, the higher dimension we seek will be something common to our everyday experience, requiring no stretch of the imagination or sidestepping of common sense, to believe in.

We can easily put forth candidates for this third dimension. Perhaps it is, somehow, gravity, or electricity, or any of the forces with which we are familiar. But we can with the same ease reject these, since they don't easily fit the requirements. While these forces are present, or can be made to be present, in many places in our universe, they do not completely *pervade* our universe. They are not always and everywhere present, like water filling a fish tank is everywhere present within that fish tank. Also, they do not seem to possess any sort of Extent beyond Spatial and Temporal Extent, and to qualify as a separate, unique dimension, they must. The only requirement these forces fill is that they are common to our everyday experience.

The only thing that seems to fit every requirement would be a dimension of Mind. Think about it (no pun intended). The entire universe, both all of Space and all of Time, fit entirely inside your mind. In fact, you can't even be sure, you can devise no experiment that proves with absolute certainty, that the universe even exists outside of your mind. I would even put forth the claim that the universe does not and cannot exist without some form of self-conscious sentience to observe it. Can we really believe that the

stars would burn and the planets turn and the billions of years of cosmic time pass, without any Mind there to observe such things? Mind is a *requirement* for the existence of the universe. I'm not claiming that there is no world external to your mind, or my mind, or any particular person's mind. But there *must* be some mind, somewhere, even if it's only a single mind, alone in all the universe, for the universe to exist. Mind is required to bring it all online and set the whole vast machine into motion. So in a sense, the lower dimensions of Time and Space expand into the higher dimension of Mind. Just as Space expands into Time, Space and Time expand into Mind. The entire universe, past, present and future, is contained within Mind. Mind thus has an Extent that encompasses all of Time and Space. We, each of us, observe the lower-order dimensions of Space and Time from the vantage point of the higher dimension of Mind. This is not contrary to our everyday experience, and it makes an almost intuitive sense. It even seems to be supported by the findings of quantum mechanics.

So the universe consists of three truly discrete dimensions of Extent: Space, Time, and Mind.

At this juncture we won't confuse the issue by asking how Mind could have arisen in the first place. We might, with just as much justification, ask how Space and Time could have arisen in the first place. It's not my intention to tangle with an answer to those difficult questions just now. I'm going to sidestep the issue, just as Science sidesteps the issue of what happened before the Big Bang by saying the question is irrelevant because time did not exist before the Big Bang, and leave those issues for others to grapple with.

Time, therefore, pervades the universe. It is an irremovable part of everything. In fact, time is the perfect candidate for the luminiferous ether, a concept that has supposedly been disproved and discarded by modern physics.

The concept of a universal ether was unceremoniously tossed out at the beginning of modern physics, a concept never to be revisited. Indeed the very concept of an ether is now looked upon in much the same way as the concept of a flat Earth, something to be sniggered at. And yet much of the inconsistencies and needlessly increasing complexities of modern physics could be solved with the reintroduction of the ether. Nearly a hundred years of mis-starts and ventures down blind alleys might have been avoided if science hadn't been so quick to abandon the idea of an ether, simply because there was no detectable candidate at the time. Modern physics, with its patchwork theories, the two major ones clashing irreconcilably, is in a crisis. It's time to seriously revisit an old idea, to see if perhaps that might have been the correct path to take after all.

4.

While one can imagine time flowing without motion, one cannot imagine motion without time flowing. Indeed, time is a necessary component in even the simplest description of motion: “Something is here, *and then* it is there.” The previous sentence makes sense to us, but take out the “and then,” and the sense leaves: “Something is here, it is there.” In our experience, something can’t be both here and there. But “Something is here, *and then* it is *still* here” makes perfect sense. In other words, time without motion (exemplified by the previous sentence) we can understand, but motion without time we can’t.

One can easily imagine a static universe where nothing is able to move but time passes. In such a universe, a conscious being might not even be aware that anything, himself or herself included, possesses spatial dimension. But one can not so easily imagine a universe where everything is moving around but no time is passing. Such a universe seems to be a logical impossibility.

Thus, I would argue that time and space are two separate entities, and that time is the more fundamental of the two, indeed the most fundamental thing of all. Time is something that enfolds space, a sort of mathematical set of which space is a component. If spatial dimension is a loaf of bread, then time is the wheat that comprises the loaf; destroy the wheat, and you have no loaf. But destroy the loaf, and you still have the wheat. Space and time are *not*, as modern theory supposes, part of a single entity called spacetime.

Relativity says that everything in the universe is moving through spacetime at the same rate, the speed of light. This motion can be divided up between space and time, so long as the total amount of motion doesn’t change. If an object is stationary, all of its motion is through time. But if an object is traveling very fast, some of its motion through time is diverted to motion through space. Anything traveling close to the speed of light experiences a considerable slowdown in time. A photon traveling at exactly light speed uses up all of its motion in speeding through space, and hence doesn’t travel through time. No time passes for the photon, and anything coming close to light speed experiences a slowing-down of time, to compensate for the motion through space. It’s a zero-sum game, played out on a stage of malleable spacetime.

That’s the view of modern physics. And it’s a mistaken view. Since space and time are separate entities, there is not a conservation law that balances them out. For although it appears to, and in a certain sense it does, time does *not* slow down as one approaches light speed.

Imagine two separate temporal moments, or points on a temporal landscape. A greatly accelerated object, and another object, perhaps in motion to a greatly lesser degree or even stationary, are moving between these two temporal moments. They both will reach them at the same “time,” but the one in high motion will have experienced a lesser duration in the journey. Because *time has a component independent of duration*—a length that is not duration, but more like length in the spatial sense. In other words, the distance between two points on our temporal landscape are constant, but the duration

experienced by objects traversing that distance are not, just as two objects traveling between two fixed spatial points might not take the same amount of time traversing that distance, depending on the speed of each object.

So, while an object traveling near light speed may experience only 1 year for every 10 years that a stationary object experiences, modern physics says that time is slowed down for the former object. And in a sense it has. But from the overall viewpoint time hasn't slowed down; the object has actually traversed the temporal distance more quickly than the slower object--i.e. time has been accelerated. Rather than deducting from the temporal side of a singular spacetime to balance the motion through space, we actually have two distinct entities, space and time, and the object in motion has accelerated through both of them.

But perhaps we still have a conservation law operating here. Maybe both space and time have a corresponding counterpart that is reduced to compensate for the accelerated temporal and spatial motion. I'll address that question later in the book.

The questions we're left with for the moment are: why should motion, or acceleration, through space equal a corresponding acceleration through time? Why do these two separate entities seem to be connected? What is the nature of that connection, the mechanism of it?

I'll attempt to answer all of these questions throughout the rest of the book.

So to summarize:

1. Space and time are separate, and time is the more fundamental of the two.
2. Acceleration through space equals acceleration through time, due to some as yet unknown mechanism.

5.

The problem with modern physics is that the notion of a constant, universal time was thrown out with the arrival of Relativity. Relativity said there could be no universal “now,” and because of the relative nature of simultaneity, events in the past and future have to be as real as events in the present. I believe this discounting of the notion of a universal time has become one of the greatest stumbling blocks of physics.

There are a few other things that have always bothered me. 1) The invention of ten dimensions (or more, depending on the theory) to attempt to unify the forces of nature, dimensions whose existence can’t even be proved experimentally (at present), yet which scientists seem to wholeheartedly believe in, confident that one day their existence will be proven. Yet these same scientists scoff at religious people who blindly believe in an intangible, unprovable God. 2) That spacetime is curved, and that curvature is felt as gravity. Yet I’ve never been able to get a satisfactory answer as to how such curvature would cause gravity. I can see where an object in motion might attribute gravity to such a curvature, but what about an object at rest? An object at rest, even if it is on a curved surface, still needs a force to impart motion. Otherwise it will go on sitting in the same place on the curve. For example, if I hold a ball stationary five feet off the ground and then let go of it, it seems to me that if gravity is due to curvature of spacetime, the ball should just hang in the air until I impart a force to it. I’ve never been able to get a satisfactory answer to this problem; I’m always told, “Well, it’s spacetime that’s curved, not just space,” as if that explains everything. I’m left with the impression that the people don’t really understand exactly how curvature leads to gravity either. And no book I’ve ever read explains it either, other than to repeat the old rote, “It’s spacetime that’s curved.” It’s a very vague explanation. Or maybe I’ve actually heard the explanation dozens of times and it’s just beyond my comprehension. 3) We take it for granted that the speed of light is the ultimate speed limit. But exactly *why* is it the ultimate speed limit? Why is there an ultimate speed limit at all? I’ve never encountered an explanation. I suppose it’s a bit like asking why $2+2=4$. It’s supposed to be completely obvious, so there’s no need to explain it.

6.

Theory of Temporogravitism

Introductory Note:

This theory does not attempt to explain the nature of time, what it is, or how and why one moment flows into the next. It assumes that time is exactly, simply, what it seems to be: a sequence of moments moving from the past into the future. Neither does this theory attempt to explain exactly *what* our universe is expanding into, i.e. what lies beyond the outer boundary of our universe.

I. Foundation of the theory of temporogravitics

All motion can be reduced to two components: time, and distance covered during that time. If we reduce each component until one of the two can be reduced no further, then the one will be equal to the other.

For instance, let's say we have a car that travels a distance of 60 miles in one hour. Both 60 miles and one hour can be divided into smaller units. We can keep dividing until we arrive at just about the smallest unit of time there is, 1 nanosecond. At that scale, our car is moving at .00000016 miles in a billionth of a second. If we assume that this is the smallest possible measurable unit of time, then we can view the trip taken by our car, when it has reached its destination one hour and sixty miles from its origin, as a sequence of frozen moments in time, each separated from the others by a distance of .00000016 miles and 1 billionth of a second. Thus, since the time interval can be reduced no further, we can say that .00000016 miles equals 1 billionth of a second, and vice versa. We have established a 1:1 relationship. Time has become equal to space. Any motion can be thusly reduced.

Of course, we cannot say that a distance of .00000016 miles really represents 1 billionth of a second, because a car (or any other object) traveling at, say, 200 mph, will reduce to give a greater distance for 1 billionth of a second. So we cannot say definitively that X distance equals 1 billionth of a second. When we can get an infinite range of distances to represent 1 billionth of a second, this exercise is useless. However, it would be very useful if we could pick out one time-space combo from this infinite range of possibilities, one combination of which it could be said absolutely, "This spatial distance is the exact, true, universal equivalent of 1 billionth of a second." Or, more precisely, the spatial distance which represents the temporal "distance" that separates each instant of time from its immediate neighbors.

And as it turns out, there is such a distance. If we take for granted that the universe began in a Big Bang, and in the ideal case has been expanding at a constant rate ever since, then we can view the entire universe as a sequence of frozen moments, each separated from the others by 1 billionth of a second and a certain distance. This distance is the amount by which the size of the universe has increased since the

preceding instant. Since time cannot exist beyond the boundary of our universe, then neither can anything escape from our universe. Everything must be contained within our universe, and thus is governed by that container. It then follows that we have a universal clock rate, a “universal moment,” that is governed by the expansion of our universe.

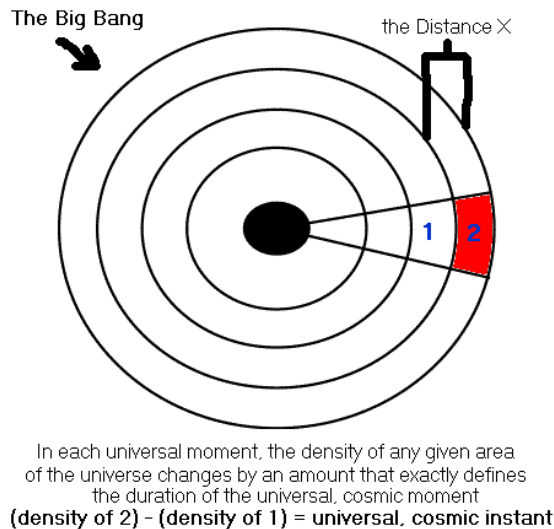
Put another way, just as two objects can be separated from one another by a spatial distance, a single object can be separated from itself by a temporal distance. If we take the universe as a whole and divide its constant outward expansion into the smallest possible divisions of time, then we can see that, having established a 1:1 ratio between time and space, then the temporal distance between each instant of expansion, i.e. the temporal distance between each “frame” of the universe’s expansion, is equal to a certain spatial distance or, alternatively, a change in density.

I will henceforth use the term “**the Distance X**” to mean **that distance through which the universe expands in the lowest indivisible unit of time**. Since our universe is an expanding sphere, the Distance X can also be regarded as **a change in density**, and I will thus use “the Distance X” to refer to both a length and a change in density.

The universe is thus expanding in the spatial dimensions at a rate of X distance per 1 billionth of a second, and the universe is expanding in the temporal dimension(s) at a rate of 1 billionth of a second per X distance. Because of this, as I will shortly explain, it is impossible for any object to travel faster than the Distance X in 1 billionth of a second, because *no time exists* beyond 1 billionth of a second, in much the way that it is impossible for anything to travel to a spatial Point C in our universe until our universe has expanded to include Point C. In other words, it is impossible to ever go beyond the edge of our expanding universe, because there is *nothing to go to*. So if Point C, at time X, lies beyond the edge of our universe, you’ll just have to wait until time Y, when our universe has expanded to include Point C. And since time is exactly analogous to space, you can’t go to a Time C until the temporal dimension(s) of our universe have expanded to include Time C. As I will show, this has very important consequences regarding ultimate speed limits and gravity.

Having thus reduced the temporal aspect of motion to the point beyond which it cannot be further divided, we can define a **cosmic moment** as *that distance through which the universe has expanded, or the amount by which its overall density has decreased, from one “frozen instant” to the next*. The duration that a conscious being will experience during a cosmic moment depends upon the state of that being’s motion relative to the expansion rate of the universe as a whole, and upon the density of space immediately surrounding that being. A being of negligible mass in a region of negligible mass, expanding at a rate equal to that of the universe’s expansion rate (i.e. the being is apparently motionless), will experience the cosmic moment at its fullest duration. Likewise, a being in motion relative to the universe’s expansion rate, or in a region of substantial mass, will experience the cosmic moment as lasting a fraction of the fullest duration. In other words, the former will experience the cosmic moment on a 1:1 basis, since even an apparently motionless object is being carried along with expanding space; while

the latter will experience it on a 1:1-x basis, where x is a ratio given by the object's speed or local density divided by the universe's expansion rate or change in density. I.E. an object in motion will measure each tick of the cosmic clock to be of shorter duration than an apparently motionless object.



So let me try to explain this yet another way, in case I haven't made it clear yet.

1. Time obviously passes, moving from one moment into the next. Each instant of time can thus be regarded as a separate entity. Each instant of time must have a length, a duration, and this duration would be the smallest instant of time it is possible to measure. I.E. we can divide an hour into minutes, minutes into seconds, seconds into milliseconds, etc, until we eventually reach a point at which time cannot be further divided. This is the interval with which my theory is concerned.

2. If we take for granted that the Big Bang happened and the universe is expanding and, in the ideal case, has been doing so ever since at a constant, steady rate, this expansion is motion, and obviously time is an absolutely necessary component of motion. Without the passage of time, the universe is static, unmoving.

3. It thus requires at least two of the instants described in 1 to set the universe's expansion into motion. If we were to measure the amount of space through which the universe expands, or the amount by which its density decreases, between these two instants, the result will be a unit of spatial dimension that exactly equals a unit of temporal dimension. **We can thus determine that there is a spatial length that exactly represents one instant of time.**

4. If we then assume that there is nothing, not even time, outside the boundary of our expanding universe, then we can also assume that time is expanding at the same rate as space. Everything encompassed by our universe is then governed by the 1:1 temporal/spatial relationship we have just established. I.E. any mass within the universe must accept the universe's temporal/spatial expansion as a master clock. This is the "cosmic" time, the universal time, which Relativity said does not, cannot, exist.

From all of the above we come away with the following statement: **there is a *certain distance*, and alternately and equivalently, a *certain decrease in density*, that represents one unit of time**, which I will refer to as the Distance X.

II. On the Connection Between Space and Time

The heart of my theory lies in the assumption that, since we can determine a spatial measurement that exactly represents a temporal measurement, then anything done within that spatial measurement will be mirrored in the temporal dimension. Much like a mathematic equation, where any operation performed on one side of the equal sign must also be performed on the opposite side. I have no mechanism to explain why this should be so, other than that it makes a sort of sense, and as you will see, it can lead to some interesting results. I can only assume that this “mirror-like” property of space and time is the result of their obviously intimate association. This theory does not attempt to explain the mechanism of this connection, and rests on the assumption that it does indeed exist.

III. On Maximum Possible Speeds Within Our Universe

There must be a maximum speed that an object in the universe can obtain, for the following reason:

Because the universe is expanding, a point on its outer boundary will move from position A to a more outwardly position B (the separation between which gives the Distance X) in an interval that marks off one unit of universal time. The maximum speed which any object within the universe can obtain is the speed at which the distance from position A to position B will be traversed essentially instantaneously. For example, say you're sitting at a chair in your house, and one mile from your house is a grocery store. You wish to go to the grocery store and no further. Supposing you have the ability to achieve any possible speed, the fastest speed you could actually achieve in traveling from your chair to the grocery store would be one mile/per nanosecond (assuming a nanosecond is the smallest unit of time). That would mean you move from your chair to the grocery store virtually instantaneously. To say that you could travel to the store faster than instantaneously makes no logical sense, and hence faster speed is physically impossible. Likewise there must be a **maximum possible speed** for any object in the universe, and that maximum speed **is the speed at which an object would instantaneously cross the Distance X during one “tick” of the cosmic clock**, i.e. between one tick and the next an object has altered its position by an amount equal to the Distance X. In such a case the spatial distance essentially becomes zero. And since any operation performed in space must be applied to time as well, due to the previously explained 1:1 relationship, the temporal distance must be essentially zero as well, i.e. no subjective time passes.

Now wait a minute, you protest. The universe is obviously a very huge place, and the Distance X is

most likely a much smaller distance. Why then cannot one traverse the Distance X faster than a nanosecond? It seems that the fastest possible speed would be a crossing of the entire diameter of the universe in 1 nanosecond.

And the reason the latter is not the case: although the spatial length that represents a universal moment is very small (as I will show shortly), and the universe is obviously quite huge, it would seem reasonable that an object should be able to accelerate to a greater speed (in other words, if the universe is a billion trillion light-years across, then it seems that the fastest possible speed would be a billion trillion light-years in an instant, rather than the much smaller speed given by the Distance X). But crossing the Distance X faster than instantaneously is not possible because time is the limiting factor. While the universe may be incredibly huge in whatever instant it is measured, that hugeness is due to the accumulation of uncountable ticks on our cosmic clock. The present universe is huge, but the distance through which it expands during a tick of the cosmic clock is very small, and *that* small distance is what governs the maximum possible speed. If you think about it, the specious present is very short, and since the fleeting three seconds we consider to be “now” can be greatly subdivided, one tick on the cosmic clock is a very short duration indeed, and hence the corresponding spatial length associated with it will also be very small. In other words, the dimensions of space are quite large, but the dimension of time (at least its dimension representing the present) is very narrow. It may help to envision this concept by imagining everything within the boundaries of our universe as representing the past. All the activity is taking place at the outwardly expanding edge of our universe, the boundary between space and whatever space is expanding into. If space can be thought of thusly, then we can translate that into temporal dimensions by imagining time as an expanding sphere; the temporal distance already traversed is the past, the expanding edge of the sphere is the present, while everything outside the sphere is the future. Whereas spatially we can travel in the areas representing the past, temporally we cannot; we are confined to the present. Crossing the spatial Distance X in an instant is the equivalent of crossing the entire “temporal universe,” of crossing “now,” in an instant--that is, with no subjective time having elapsed, just as a person crossing the Distance X in an instant could, from his/her point of view, say that the spatial separation between his/her starting point and ending point was zero. Thus our temporal universe is much smaller than our spatial universe. All of which is why we can never traverse the spatial Distance X faster than instantaneously: the temporal universe is only as large as the Distance X, and hence limits the speed we can travel spatially.

IV. Relative Motion in Our Universe

All motion in our universe is relative to the outward traveling edge of our universe.

Since all of space is expanding at the same rate as the outward edge of our universe, objects that are apparently stationary in the universe are expanding at the same rate as the outward edge of the universe. They will thus expand through the Distance X in the same interval that it will take the universe's outer

edge to traverse that same distance. So when an object in motion relative to the outer edge traverses the Distance X, it is actually doing so at a greater “rate” than the rest of the universe. An object in motion will go from point A to point B more quickly--i.e. the density of the universe will change less in the interval that an object in motion travels from point A to point B, than it would for a stationary object. And since change in density governs the subjective time rate (less change in density=less subjective time), and motion in space is also applied to time, an object in motion experiences less subjective time traveling from point A to point B.

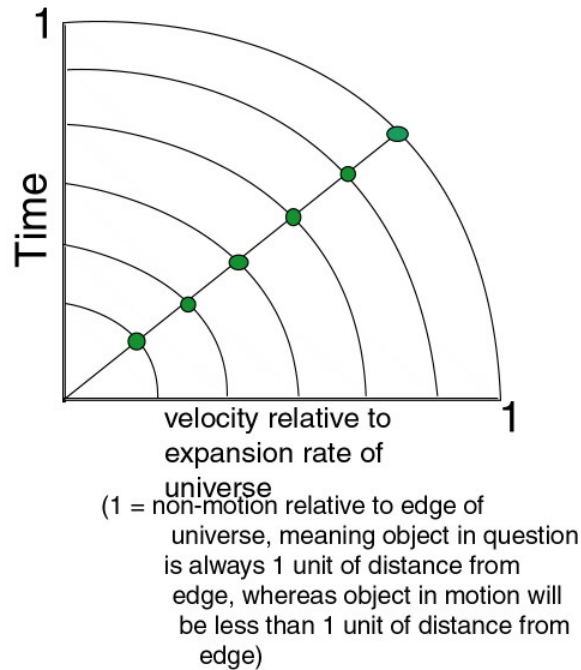
V. Time Dilation

An object in our universe that appears to be stationary is still expanding along with the universe, sort of being “pulled along” by the expanding outer edge. Such a “stationary” object will always be always be separated from the expanding edge of our universe by 1 unit of distance. The expanding outer boundary of the universe thus becomes a sort of “ground” against which all motion and time must be measured. An object in motion relative to the outward edge of our universe will be separated from that edge by a less than 1 unit of distance, will cross the Distance X at a greater “rate.” The faster an object is moving, the smaller will be the distance from the outer edge.

As an illustration, imagine two cars speeding along a straight road at the same speed, one to the rear of the other. The lead car we’ll call Car A, the lagging is Car B. Because they are traveling at the same speed, Car B will always be separated from Car A by 1 unit of distance (the value of the units are not important, just that they are separated by 1 unit). Car B will never be able to overtake Car A. Now suppose we have a third car, Car C, which is traveling at a greater speed than either of the other two. Car C will thus, at any instant of time, be separated from Car A by less than 1 unit of distance. Suppose that all three cars started out at the same place, and have the same destination. When cars A and B arrive at their destination, they will compare notes and agree upon the time it took them to travel from their starting point to their destination. Car C, however, will assert that it took less time to travel from start to destination. Even though they have traversed the same distance, Car C disagrees with the amount of time it takes to traverse the distance.

We thus have a range from 1 to 0. An object at 1 unit of distance from the outward expanding edge of the universe (i.e. an object expanding at the same rate as the space around it--a motionless object) will experience a “cosmic tick” at full duration, while objects with less than 1 unit of distance will experience a tick at a fraction of the full duration. This is because an object in motion relative to the outward edge is moving through the Distance X at a greater speed, and consequently, since actions in spatial dimensions are mirrored in temporal dimensions, will also be moving through time at a greater rate (in other words, if a “stationary” object experiences a subjective hour, an object in motion will experience that same hour as lasting only, say, forty-five minutes, or thirty). It should be noted that greater speed through time does not mean more subjective time is experienced than elsewhere; rather it means that in going from

temporal point A to point B, an object with greater speed will experience less duration between those points than an object moving at slower speed, much as Car C in the example above reported that it hadn't taken him as long as Cars A and B to reach his destination.



VI. The Value of the Distance X

So how do we determine what the value of the Distance X is? We find something for which time has ceased to pass because it's traveling as fast as is possible. This means it is crossing the Distance X instantaneously, and if we measure its speed, we will have the value of the Distance X. By now (probably long before now) it will probably have been completely obvious that the value of the Distance X is given by the speed of light. If we divide the speed of light by the smallest unit of time, beyond which time is no longer divisible, we get the spatial length that represents a tick of the cosmic clock--the Distance X.

For purposes of this discussion, I'm going to use one billionth of a second as the smallest possible unit of time. I know there are smaller divisions possible, but using a billionth of a second doesn't alter or invalidate the theory; 186,000 miles per second is the same thing as 11,116,000 miles per minute. But it should be kept in mind that to find the precise value of the Distance X, the smallest possible unit of time *must* be used. I'm going to use a billionth of a second because it's easier to deal with than the actual smallest value would be, and it's useful for illustrating a point I'm going to make in a moment.

So: the value of the Distance X is equal to 186,000 miles (the distance light travels in one second) divided by a billionth of a second, which gives a value for the Distance X of: 1.86 miles.

Therefore, the spatial distance representing the temporal separation between two consecutive instants of time is 1.86 miles.

Now here is the part I find really interesting: 1.86 miles is the critical radius for a mass the size of our Sun--when the Sun's mass is compressed to this radius, a black hole is formed and time dilation becomes infinite. Subjective time ceases to pass. Here, then, is a relationship between motion and change in density. Crossing the Distance X (1.86 miles) instantaneously causes no subjective time to pass, as does shrinking a mass the size of our Sun or greater into an area of cubic space equal to the Distance X. We can therefore conclude that in one tick of the cosmic clock the overall density of the universe decreases by 1 solar mass per 1.86 cubic miles. Adding mass to that same volume will counteract the decrease in density, and since change in density governs time, the more added mass within that volume, the less subjective (local) time is experienced during one tick of the cosmic clock. When a solar mass is compressed into that volume, subjective time ceases to have any meaning relative to the rest of the universe.

VII. Gravity

What happens when a less massive object A approaches a more massive object B? Because time is passing more slowly near B, A will accelerate toward B until the difference is equalized, i.e. until A has adjusted itself to the rate of time's passage in B's region of space.

This is in keeping with the principle of equivalence. An accelerating object undergoes a warpage of time and an apparent increase in mass, therefore a mass moving into a warpage of time (or a stationary mass with differing time-dilations between one end of the object and the other) must accelerate, generating an apparent increase in mass. In other words, acceleration produces a changing time dilation, therefore a changing time dilation will produce acceleration.

Gravity is not a force that can be quantized, like electromagnetism and other forces. Gravity is an effect more accurately likened to *hot flowing to cold*, or *greater pressure flowing to lesser pressure*. This is why there will never be a quantum theory of gravity: gravity cannot *be* quantized. The presence of a great mass in a given region of space sets up a sort of "temporal gradient," somewhat like a pressure gradient.

If gravity is merely the result of time flowing at different rates between two regions, then why doesn't every massive body in the universe have the same magnitude of gravity? I.E. why doesn't the moon exert the same amount of gravitational "pull" on an object as the sun, or the Earth, i.e. why does the Earth cause a lesser mass to accelerate at 9.8 m/s/s, while the moon causes a lesser acceleration? This question is easily answered using the principle of equivalence. If rocket A accelerates harder than rocket B, rocket A will experience a sharper change in time dilation from moment to moment than rocket B. By the principle of equivalence, a more dense mass has a sharper change in time dilation associated with it, and so will produce a greater acceleration in a nearby lesser mass. By **changing time dilation** I mean that at Point A an object under constant acceleration will have a certain time dilation, at Point B it will have an even greater time dilation, at Point C it will have yet a greater time dilation, at Point D...etc, and the faster the object is accelerating, the shorter will be the space between those points. Likewise, as the distance

from a stationary massive object (such as a planet or star) is decreased, an ever increasing time dilation will be experienced. I.E. associated with each point in space near a massive object is a specific time dilation, increasing as one nears the object and decreasing as one moves away.

VIII. Temporogravitism

From the above section, we can say that time-dilation is to gravity as electricity is to magnetism. We can thus define a new phenomenon similar to electromagnetism: temporogravitism. Just as magnetism is produced by a changing electric charge, so too is acceleration (gravity) produced by a changing time dilation. Like electricity and magnetism, time-dilation and gravity are two sides of the same coin. The one cannot exist without the other. Electromagnetism. Temporogravitism.

IX. Time Dilation as High Entropy

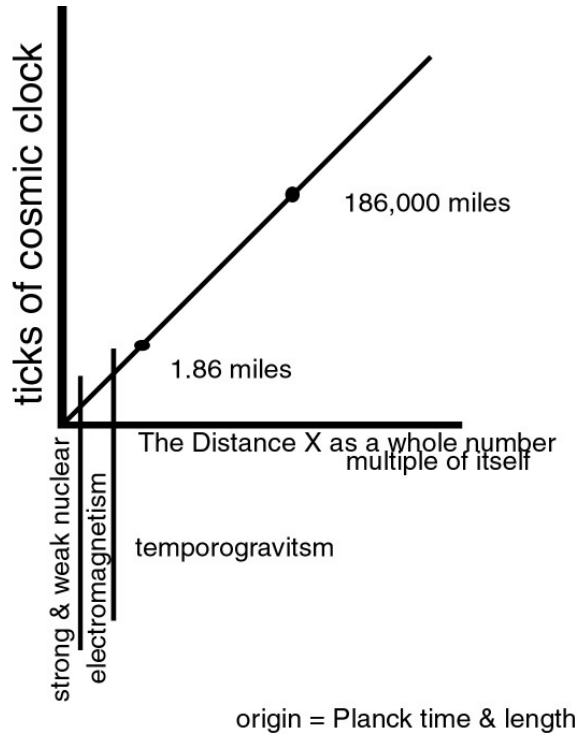
Time dilation can also be viewed as an increase in entropy. Look at the electromagnetic spectrum. All electromagnetic waves, light included, travel at the same speed, differing only in frequency/wavelength. A low frequency/long wavelength has a correspondingly lower energy than a high frequency/short wavelength. These variations are what keeps the various types of EM waves traveling at the same speed.

Likewise, all events at the current moment must happen in synch. Everything must arrive at the end of time, the Ultimate Endpoint, at the same moment. But how can they, if time is running slower in some places or faster in others? This brings us back to the point that a region of high mass density where time is running slower will not reach the Ultimate Endpoint later than the outside universe; it will simply reach the Endpoint with less subjective time having passed. This means that time, like light, in effect has a speed to which the various types must adhere.

A useful way to picture it is this: two people are walking side by side toward a brick wall. They must always stay side by side, each moving at the same speed as the other, and they must arrive at the brick wall simultaneously. One person has very long legs, the other, short legs. Thus the person with the short legs must take more steps, must walk faster, to keep up with the long-legged person, in order that they remain side by side and arrive at the wall simultaneously. Each person represents “now,” and the number of strides each takes represents the number of successive “nows” each will experience before they arrive at the brick wall, which represents the Endpoint of time and space.

Thus, since a region of high mass density, such as a sun or a black hole, doesn't take as much subjective time to reach the Endpoint, it in effect has a longer “time wavelength” than a region of lesser density, such as a planet. Like an EM wave, a longer wavelength has a lower frequency, and corresponds to a lower energy state. In other words, higher entropy. Stretched time (time dilation) represents a state of higher entropy/greater disorder.

So when an object of low mass gravitates toward a greater mass, it can also be viewed as a system tending toward a state of greater disorder, in accordance with the Second Law of Thermodynamics, which can be restated in temporal terms as: an object will seek the quickest path toward the End of Time. The “quickest path” means “with the least subjective time having passed.”



NOTE: here ends the theory of temporogravitism.

7.

The temporal Aether, and light as a ripple in it.

If we accept that time can be dilated, i.e. pass at faster or slower rates, then we can picture the universe as being filled with a “temporal ether,” where time is passing at faster or slower rates depending on one’s location in that ether. Time is passing everywhere, but not at the same rate everywhere, so that space is like a vast room which has a minimum temperature throughout, but has regions where that temperature fluctuates, deviating from the minimum overall temperature.

Thus, time can be considered as the aether, the concept of which was so unceremoniously tossed out of Physics early last century. This aether has never been detected, because people have been looking for an aether made of a traditional material, against which we can measure changes in velocities, or detect it by its passage across instruments, like the branches of a tree scraping against a passing car. But the aether can’t be detected in this way, because it’s *not* a traditional aether. It’s a higher dimensional aether.

Light is a ripple passing through this temporal aether, a traveling wave of temporal variation, i.e. a wave of dilated time. The “frequency” of the light depends upon the degree to which time is dilated in this traveling ripple.

And Young’s double-slit experiment shows that the temporal aether doesn’t immediately revert back to its original state after the passage of the ripple. The aether remains sufficiently disturbed afterward to interfere with another ripple “following on the heels” of the first. During the performance of the double-slit experiment, if we wait a sufficient time between sending pulses of light through the slit, the aether between the slit and the detector should revert to its normal state and we won’t see the interference pattern building up. In other words, waiting a sufficiently long period between light pulses should, so to speak, give the waters enough time to settle down, to lose the turbulence stirred up by the passage of the first photon.

8.

Relativity claims that there can be no universal “now” because different inertial frames will disagree on whether any two given events occur simultaneously. Relativity’s discounting of the notion of an absolute, universal time rests on the use of light to determine simultaneity. Let’s imagine that I am instantaneously transported from Earth to a point 65 million light-years away (never mind how such a thing would be possible; just imagine for the sake of argument that it is possible). From this vantage point 65 million light-years away I peer through a telescope back at Earth. Because the light coming through the telescope is light that left Earth 65 million years ago, I see dinosaurs walking around on Earth. Using Relativity I must conclude that at that moment dinosaurs are alive and well. Relativity forbids me from

using my knowledge that dinosaurs are 65 million years dead, and that I am only seeing them because it has taken the light from Earth 65 million years to reach the point in space to which I have been miraculously transported.

Just because I can no longer see events that are currently happening on Earth does not mean that they're not happening; it does not mean that those events are now 65 million years in my future. Relativity mistakenly claims that the medium used to convey an impression of reality *is* the reality, and uses that mistaken claim to discount the notion of a universal time, a universal "now." One can't help but imagine a parent playing with a child. The parent shows an object to a baby, the baby gets very interested in the object, and then the parent hides the object behind a chair, whereupon the baby promptly forgets the object, as though it's ceased to exist merely because the baby can no longer see it. Relativity's discounting of simultaneity rests on the child-like belief that, on a planet 65 million years from Earth, the dinosaurs on Earth are just now dying off and our "now" is 65 million years in this far-off planet's future. Relativity doesn't let the inhabitants of this far off planet take into account their knowledge that it has taken the light 65 million years to reach them, and that therefore the dinosaurs they're observing are 65 million years in the past. Relativity says that these beings must believe that, from their viewpoint, dinosaurs are presently walking the Earth, merely because the light from present day (to Earthers) Earth hasn't yet reached them.

But contrary to Relativity, the medium (light) used to convey an impression of reality is *not* the reality. The very foundation of Relativity is faulty. Using Relativity's claim that the medium is the reality, I would have to conclude that an event I see reported on a TV news program, even though the event happened a day or more ago, is just now occurring from my viewpoint, because I am just now learning of the event, via the news program.

Relativity further compounds its error by using the above claim to (insert paragraph about the idea of "nows" not being in synch, i.e. the two men with short and long legs walking side by side).

Let's again imagine a planet 65 million light-years from Earth. Now, photons bounce off some dinosaurs on Earth and hurtle off into space, heading for the planet 65 million light-years distant. On Earth, 65 million years later, the dinosaurs have died off and you are born. You know that right about now those photons are reaching that far off planet. They're falling into a telescope which an inhabitant of that planet has aimed at Earth. That alien astronomer sees dinosaurs walking the Earth. Relativity would say that concomitant with the alien astronomer's "now," dinosaurs are alive and walking the Earth, and not you the reader, who is imagining this alien astronomer. Now, suppose the alien astronomer were miraculously, instantaneously teleported to Earth. What would he (for grammatical convenience we're pretending it's a he, and not a she or an it) see? There are two possible answers to this question.

Possibility 1: If we go by Relativity, the medium is the reality. Therefore since light reaching the astronomer shows dinosaurs walking the Earth, the astronomer should find himself in the midst of dinosaurs if he were magically teleported to Earth. Therefore, if Relativity is valid, the photons that left

Earth have, in effect, traveled over 65 million light-years instantaneously, from the point of view of both Earth and the alien astronomer's home planet. Yet if we take Relativity as valid, we know that this cannot be the case. Since light travels at 1 light-year per year, it must take at least 65 million years for the photons to reach the alien astronomer's planet. So after 65 million years you are imagining the alien astronomer, and the photons of the dinosaurs are just reaching his planet. Yet, since Relativity uses light to define synchrony and "now," Relativity says that your "now" and the "now" of the alien astronomer are not the same. "Now" for the Earth, according to the alien astronomer, is 65 million years ago, since light cannot yet have carried information about your existence to the astronomer. Likewise, the astronomer's "now," from your viewpoint, must be 65 million years in *his* planet's past.

Now, if we assume, as Relativity does, that the medium is the reality, then if either you or the alien astronomer, at the time the photons from Earth reach the far-off planet, are magically teleported to the other's planet, you will not meet each other, but rather each will become entangled in events 65 million years in the past of the respective planets. In which case, from the viewpoint of the alien astronomer's home planet, the photons which left Earth have traveled the 65 million light-years instantaneously, while from your viewpoint on present-day Earth, those photons, in their long journey across space, must also *have tunneled back through time 65 million years*, to reach the alien astronomer's eyes, which should be in your present, but aren't actually, because the medium is the reality...

If Relativity is true, then light must have a component *that travels back through time at the same rate its counterpart moves forward through time*.

Possibility 2: The alien astronomer finds himself among present-day humans, including you, who have been imagining him. Which means that Time is absolute; both the "now" of the alien astronomer and your "now" are the same. Time is universal, and light signals are merely conveying an impression of reality, and are not ***the*** reality.

So we must either accept either that

1) the medium is the reality, and that "now" varies from place to place in the universe. For an inhabitant of a planet hundreds of light-years from Earth, you do not exist yet simply because light that has bounced off you has not yet had time to reach his planet. As a consequence of this (detailed above) we have several contradictions to deal with.

or that

2) while we cannot transmit information about current events faster than light, this does not mean that, to widely separated observers, the "now" each observer assigns to the other is determined by the distance light must travel between them. Time is absolute, and "now" is the same everywhere.

When anyone objects to the notion that “nows” can differ from place to place, scientists neatly sidestep the issue. Paul Davies, in his excellent book, *About Time*, writes:

“[Relativity] forbids any physical body or influence to travel faster than light, so there can be *no* instantaneous communication between Ann and Betty. The fact that Ann and Betty have inconsistent “nows” or definitions of simultaneity at distant places *is therefore not a cause for concern. No physically significant meaning can be attached to events happening “now” at a far-flung place, because we can never know about or affect such events in any way.*” (Emphasis added).

This is the standard answer scientists use to dismiss anyone who has a notion to simply call up and ask the distant party what’s happening in their *now*, or to teleport there and check for oneself. They won’t even allow for the sake of argument that such communication or travel is possible, just for the purpose of exploring ideas. They refuse to entertain the impossible, just for argument’s sake, because this is a very touchy, very weak part of Relativity, and such arguments can lead to the downfall of the precious theory. This is the same sort of question as, “But what happened *before* the Big Bang?” Ask that question of a scientist and you’re likely to get a glare, a curt, “The question is meaningless because time didn’t exist before the Big Bang,” and an admonition to leave science to those who truly understand it. But these sorts of questions aren’t meaningless; in fact, they are crucial. If what happened before the Big Bang is such a meaningless question, why does someone like Stephen Hawking go to such great lengths attempting to answer it, coming up with notions like “imaginary time” and such? It’s not that the questions are meaningless, it’s just that mainstream scientists want the questions answered in certain ways, in ways that don’t contradict the theories they’ve spent their lifetimes studying.

But I digress.

Just because we can’t communicate with or affect events at far-flung places doesn’t mean it’s meaningless to consider “now” at such a place. Suppose my brother and I each have a clock, each in perfect synchrony with the other. We agree that on such and such a date at a time far in the future, my brother will do a certain thing. He then heads off into the depths of space at such a speed that time dilation is completely negligible and our clocks are able to remain in perfect synchrony, or near enough so as not to matter. We are both sufficiently long lived that he is able to thus travel hundreds of light years, and both of us are still alive and well at the end of his journey. When he reaches his destination, the agreed upon time arrives and he does the thing he agreed to do. As he does his thing, he uses a camera to capture himself in the performance of this thing, and the camera immediately begins transmitting the documentation back toward Earth. Meanwhile, back on Earth, I’m looking at my clock at the agreed upon time, secure in the knowledge that my brother is doing the agreed upon thing at that very moment hundreds of light years away.

Because the medium is the reality, according to Relativity and mainstream science, I can't look at my clock at the agreed upon time and claim that my brother is doing his thing right at that moment, because the transmission from his camera will not arrive at Earth for hundreds of years. Even though we're both looking at our clocks at the same time, separated by hundreds of light years, seemingly sharing the same "now," we aren't really, simply because I can't communicate with or affect him in any way. Our "nows" are out of synch, and considering what he is doing "now," even though we agreed he would do his thing at a certain time on our perfectly synchronized clocks, is meaningless on my part and not a cause for concern. This is absurd, and a great many people realize it's absurd, else why would mainstream scientists be so assiduous in their sidestepping of the issue? We are less educated, they tell us, and merely by asking the question we are showing our ignorance. But I say we need to be more trusting of our instincts; certain things in science don't seem absurd because we don't truly understand them, but rather because they actually *are* absurd.

At this point some of you are no doubt objecting that my entire rant against Relativity is unfounded, because in discussing simultaneity and absolute time, Relativity is referring to inertial frames in motion relative to one another. In the examples I have presented above, both planets are at rest relative to one another, i.e. they share the same inertial frame, so there is no conflict here. They share the same "now."

But according to mainstream science, there *is* a conflict here. It doesn't matter that they share the same inertial frame; their "nows" are *not* the same. Paul Davies, again in *About Time* (page 71), writes:

"If reality really is vested in the present, then you have the power to change that reality across the universe, back and forth in time, by simple perambulation. But then, so does an Andromedan sentient green blob. If the blob oozes to the left and then the right, the present moment on Earth (as judged by the blob, in its frame of reference) will lurch through huge changes back and forth in time.

Unless you are a solipsist, there is only one rational conclusion to draw from the relative nature of simultaneity: events in the past and future have to be every bit as real as events in the present.

...But to make sense of the notions of space and time, it is necessary to imagine that those there-and-now events are somehow really "out there," spanning days, months, years and, by extension (you can magnify the mischief by increasing your changes in speed ***and the distance to "there"***), *all* of time." (emphasis added).

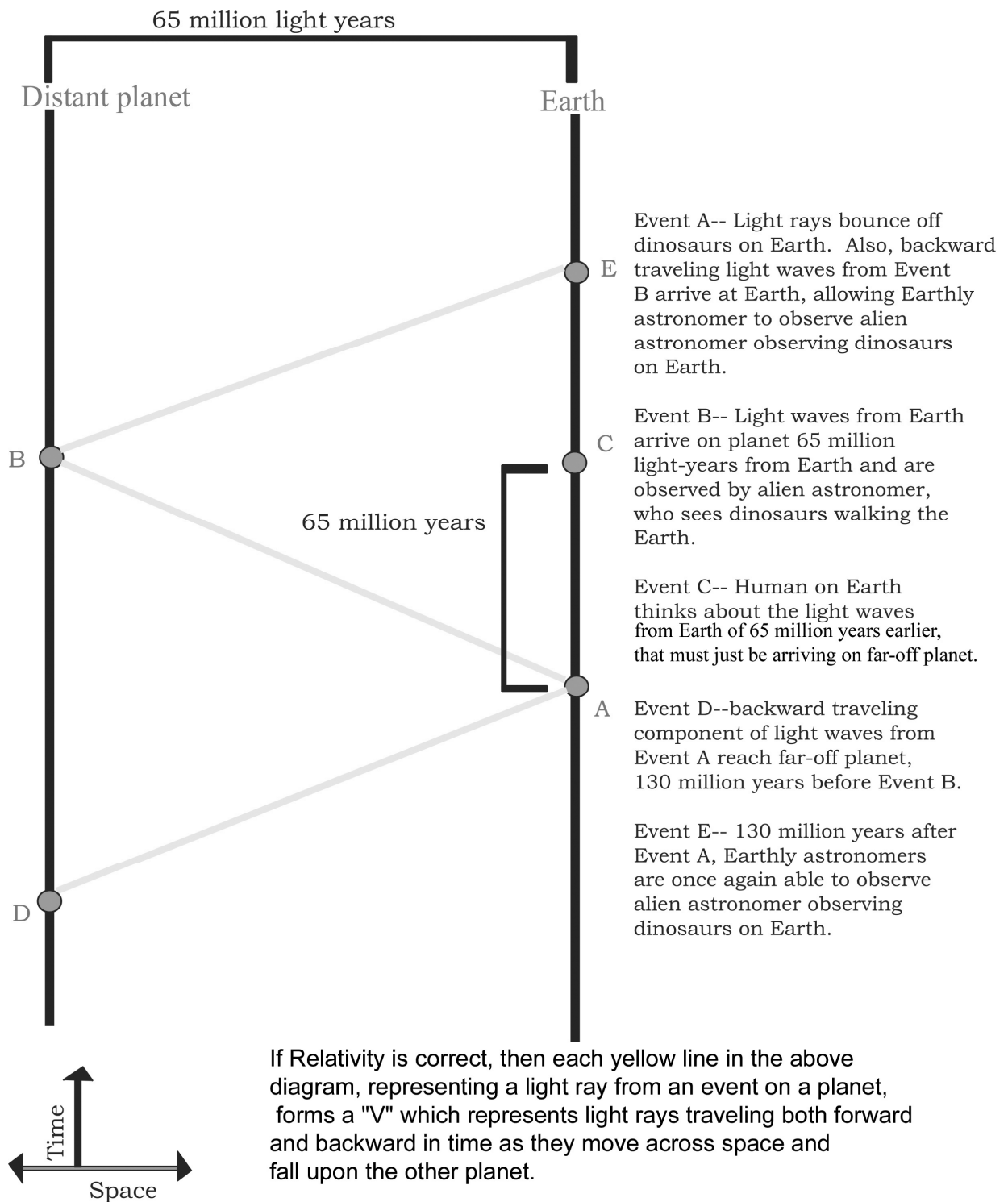
So mainstream science does *not* limit the relative simultaneity of events only to those occurring in differing inertial frames, but includes those events which are separated by a vast enough (i.e. interstellar) distance. And all this foolishness stems from Relativity's misguided and unfounded assumption that the medium used to convey an *impression* of reality is the reality.

The only way I can see around the contradictions inherent in Possibility 1 is this: a light wave somehow travels into both the future and the past at the same time.

LATER NOTE (2-14-09): the Paul Davies quote, Scott, begins with an “*if*.” He’s arguing that reality isn’t really vested in the present, because *if* it were, then the result would be this absurd power of the Andromedan sentient green blob to alter the present moment on Earth simply by oozing a few steps to the right.

But at the same time, Davies is careful to emphasize that the blob would only be altering the present moment on Earth *as judged from its own frame of reference*; that you would have the power to change temporal reality all across the universe, from your own point of view. So what he’s saying is if now were universal, it would still be relative. The sentient blob would only be altering time from its own point of view. So what exactly is Davies trying to say here? I think what he’s demonstrating is that even PhDs are confused when thinking about Relativity. Because it’s so counterintuitive and inconsistent, even those who are supposedly “experts” on the subject don’t know what the hell they’re talking about. And he’s also showing that experts are not capable of thinking in non-Relative terms. Even when Davies tries to show what the world would be like if now were universal, he taints his illustration by inadvertently dragging Relativity into it, completely ruining his illustration. It’s like he’s saying, “Apples are indisputably superior to oranges. But suppose apples were *not* superior to oranges: you could make an apple superior to an orange simply by placing an apple near an orange.” It makes no sense; the logic of his illustration is flawed, and so his illustration must be rejected.

Or in the quote above, he could basically be saying, “If relativity is true, time and motion must be relative, or else relativity leads to contradictions.” Which is completely obvious, so why is bothering to say it?



9.

Take a point and extend it, and you have a 1-dimensional line. Extend every point in that line and you have a 2-dimensional plane. Extend every point in that plane and we now have a 3-dimensional cube. Now, imagine that that cube represents our 3-dimensional universe *right now*. It's snapshot of the configuration of every bit of matter in our universe *right now*. Assuming that our thoughts are nothing more than a certain configuration of every atom in our brains, we could zoom in on one person and read the thought *right now* encoded by that configuration of matter. No time is flowing; this is just a timeless snapshot of our universe at the given instant.

Now, the construction of this 3-dimensional universe-cube was accomplished by, basically, duplicating every point resulting from the previous extension and extending that in a new direction. So to extend our universe cube into a fourth dimension, we duplicate our 3-dimensional universe-cube and extend it into a line. We now have a line of identical universe-cubes.

Basically what we are doing as time passes is this: we're altering the configuration of our brain pattern, i.e. the configuration of every atom inside our brain. We ourselves are each altering our own pattern, as well as having our pattern altered by factors external to our brain. So we're altering our brain pattern, the external world is altering our brain pattern, and we're altering the external world in return.

So, in the line of universe-cubes, each successive cube is *not* identical, but rather each varies slightly from the surrounding cubes. View the cubes in sequence and time appears to "flow" in the manner with which we're familiar.

But *how* does this illusion of time's flow arise? To generate this flowing effect we need to extend the line of universe-cubes into a fifth dimension. We take the line of universe-cubes and extend it to form a plane. The universe-cubes, each of which represents a "snapshot" of an entire 3-dimensional universe, is now extended at right-angles to itself. In effect, time is now "flowing" in the manner with which we're familiar, and this seeming flow is the result of a second dimension of time flowing at right-angles to the first. So just as each successive moment appears to extend into the future, so too does each moment extend, unaltered, "sideways" in a second temporal dimension.

Now, our consciousness actually resides in this second, higher temporal dimension. In this higher-dimensional time, we each experience our lives "all at once." From birth to death, every moment is co-existent. From the first(time)-dimensional vantage, each moment happening successively is just a sort of "optical illusion" (except the illusion isn't optical, it's temporal). Each moment is actually equally as real; the moment you experienced five minutes ago is still "alive," still being experienced by your self that resides in the second temporal dimension, just as is the present moment, because each and every moment of our lives extends into the future of the second temporal dimension.

What is life like for our higher-dimensional selves? Since, in the first temporal dimension we basically try to make adjustments to the paths that our lives are tracing out into the future, then our higher-

dimensional selves must do the same. But since our higher-dimensional selves experience our entire lives all at once, what they do is adjust moments of their 1st-dimensional lives to their liking. In other words, the lives which you and I seem to experience as spread out over 70 or so years, we experience it all in one instant of 2-dimensional time. If in one instant our higher selves don't like a part of their 1st-dimensional life-path, they change it the next instant, molding their 1st-dimensional life paths over the course of 2nd-dimensional time. And as they're doing this, they also have to contend with others who are also molding their own 1st-dimensional lives. In other words, just as we from our 1st-dimensional vantage points make choices each and every moment, planning for the future, acting and reacting in response to our events in our world, so too is our 2nd-dimensional self doing the same thing from a 2nd-dimensional vantage point. In fact, this is how our own sense that time "flows" arises. Our 2nd-dimensional self is in effect living in each and every moment of our lives, able to make a choice, and then remake it if it doesn't turn out as he or she likes. They can in fact make changes in a multitude of our moments during a single instant of 2nd-dimensional time, and each change effects all other moments in our 1st-dimensional past and future, so that our lives are in a constant state of flux, even though we don't notice it. And we don't notice it because each change is in a successive moment of 2nd-dimensional time. It's as if our lives, rather than flowing into the future of 1-dimensional time, are actually flowing "sideways" into the future of 2-dimensional time, sort of moving across a series of parallel universes.

We can thus imagine the entire 4-dimensional universe with which we're familiar as a higher-dimensional thing evolving itself toward a sort of perfection, because the universe we know, which seems to have a fixed beginning in the past and (we can imagine) a fixed end-point sometime in the future, exists perpetually in 2nd-dimensional time, constantly changing configuration at every moment in our familiar past and future, as it proceeds into the 2nd-dimensional future.

The question must also be asked: why does 2nd-dimensional time appear to "flow" to our 2nd-dimensional selves? If 1st-dimensional time requires extension into a second temporal dimension to give the appearance of "flow," then so also does 2nd-dimensional time require extension into a 3rd-temporal dimension. And so on up the line. Just as the entirety of first dimensional time is visible from a 2nd-dimensional vantage point, so too is the entirety of 3rd-dimensional time visible from the 4th. Though at each stage there seems to be a "present moment," with a past and a future, which turns out to be an illusion. It's actually an infinite regress, into an infinite number of dimensions. You can figure out these higher extensions on your own, but here's some interesting thoughts: at the 3rd-temporal dimensional level, our 3rd-dimensional selves are able to alter the past of their 2nd-dimensional lives. And also, from all this, we can imagine that quantum uncertainty must result from all this, because everything that can possibly happen will happen and has happened at some point. The past, present and future, from the vantage point of the first temporal dimension, are in a constant state of flux. Even though things appear stable, they're not.

Now for the real bummer: we will never be aware of our higher-dimensional selves. Due to the nature

of this whole hyper-dimensional universe, we are necessarily “stuck” peering at our lives from the perspective of the lowest temporal dimension.

10.

There is no future. There is no past. There is only the present; there is only *duration*. We think of our lives as a line: the line extending in front of us we call the future, the line extending behind us we call the past. In so doing we are spatializing time, giving it a three-dimensional quality that it doesn't actually possess. Because we project time into space, we tend to think of the past as still existing physically, somewhere, in some manner, just no longer accessible to us. But the past no longer exists; in fact the past *never* existed; there is only the evolving present. Its changes are imprinted into our brains; and that imprinting is where the so-called *arrow of time* is born. The physical universe makes no distinction between past and future; such labels are purely the product of the human mind. We believe there is an arrow of time because we *remember* the cause of an effect we witness. Cause and effect are mere labels we place on two seemingly separate events. But in the physical universe, devoid of any consciousness, lacking any memory, there are only *events*. These events are connected only when *mind* comes along and places labels upon them. But even *memory* is just an *event* in the ever-present now. The “prior” events encoded by human memory, as far as the universe is concerned, never existed, never took place, because they lack any physical reality in the ever-present now, and so lack any significance.

11.

Relativity claims that spacetime is curved, and that that curvature shows itself as gravity. Gravity is thus not actually a force, but rather a geometric property of space.

But Relativity does *not* explain gravity. Let's say I'm on Earth, holding a ball in my hand. If gravity is merely due to the curvature of space and not a force, then when I let go of the ball, it should just hang in the air. And it should continue to hang in the air until I impart a force to it. To explain my reasoning, let's say I'm in deep space, far from any consequential gravitational influence. I have a large globe, and a ball. If I place the ball against the globe and let go of the ball, it does not go rolling down the sides of the globe, following the globe's curvature. It stays right where I placed it, until I impart a force to it. If I take the ball and the globe back to Earth and put the ball against the globe and let go of the ball, the ball will roll down the globe, following its curvature. The ball does this because gravity is now pulling on it.

The globe is analogous to the supposed curved space of relativity. So, in the absence of any force, an object at rest in the curved space should stay put until acted on by an outside force, because as I demonstrated, in the absence of gravity an at-rest object will not suddenly go careening away. Yet from experience everyone knows that if you let go of a ball it will fall to the Earth, supposedly following the

curvature of space around the Earth.

So given this contradiction, how can spacial curvature explain gravity? You still need an outside force (i.e. gravity, or a push from my hand) to start a stationary object moving “down” the curvature. Spacial curvature does not explain gravity; it only introduces an unnecessary complication to the universe.

(In other words, if the curvature of space is the source of gravity, what makes a stationary ball fall when I let go of it? A ball sitting on a level table top will not suddenly go shooting across the table top, yet that's exactly what Relativity claims is happening when I let go of a ball.)

12.

On page 229 of his book *Time and Eternity*, William Lane Craig says, “Indeed, the fact that the past has no beginning at all, not even an infinitely distant one, makes it even more bewildering how the past could have been formed by successive addition. It is like trying to jump out of a snake pit! And Mackie's observation that from any point in the past the distance to the present is a finite distance is quite correct but simply irrelevant to the discussion. For the issue is how the *whole* infinite past can be formed by successive addition, not merely some finite portion of it.”

Here Craig is making the same error in trying to refute the idea of an actual infinity, by considering that infinity as a *whole*. Again, a *whole* is a boundary. Speaking of a *whole* infinity is to erroneously place a boundary upon something that is inherently boundless. A whole infinity is a contradiction of terms.

The paradox of Hilbert's Hotel, often cited as a demonstration of something profound, is really no paradox at all. All it demonstrates is that those who believe in its actually being a paradox don't really understand infinity. The “paradox” of Hilbert's Hotel is demonstrated thusly: suppose we have a hotel with an infinite number of rooms. On a particularly busy night, all the rooms are occupied by guests. Now, suppose more guests begin arriving. Where can they be placed, since the hotel is already full? Simple. Move the guest in room 1 to room 2, room 2 to room 4, room 3 to room 6, etc. This will free up all the odd-numbered rooms, so the hotel can once again accommodate an infinite number of guests. This supposedly demonstrates a paradox of infinity: a full hotel with an infinite number of rooms still has room for an infinite amount of guests, even though it is full.

But there is no “paradox” here. Those who claim a paradox are demonstrating their own lack of understanding regarding infinity. They are taking something that is inherently boundless, something which, by definition, can *have* no boundary, and placing a boundary around it. In regard to Hilbert's Hotel, the hotel with an infinite number of rooms: such a hotel can never be fully occupied in the first place, so it is fallacious to suppose that all the rooms are full.

Craig's claim in the above-mentioned book, that the issue is how the *whole* infinite past can be formed by successive addition, is an erroneous claim. There is no *whole* infinite past that Mackie needs to explain away.

To speak of a *whole* infinity is a logical absurdity, since a *whole* infinity would not be an infinity. It would be finite.

So how does this sit with Zeno's paradox? If I believe that the so-called paradox of Hilbert's Hotel is a fallacy, then how can I ever believe in the possibility of, say, walking across the room, since to do so I must go half the distance, and then half of half the distance, and half of half of half the distance, and so on, to infinity. So how can I ever reach the other side of the room? Likewise, how can I ever count from zero to one?

Zeno's paradox also is no paradox. In the case of an object moving from point A to point B, or of counting from zero to one, we are dealing with a definite, *finite* distance. And the finite cannot possibly contain the infinite. I do not have to cross half of half the distance, etc. We cannot take an enclosed, wholly encompassed distance, whether physical or mathematical, and claim that it has an infinity within it. Such a claim is logically fallacious.

THE FLUID TIME THEORY: TIME, GRAVITATION, FASTER THAN LIGHT TRAVEL, AND THE PRINCIPLE OF FLOTATION APPLIED TO TIME

1. Time and Gravitation

Gravity is caused by differences in the rate of flow of time. This at first sounds ridiculous: talking about a rate of a rate. It seems meaningless to say that time flows at, for example, two minutes per second in one place, or three seconds per minute in another.

A useful way to picture it is this: Two people are walking side by side toward a brick wall. They must always stay side by side, each moving at the same speed as the other, and they must arrive at the brick wall simultaneously. One person has very long legs, the other, short legs. Thus the person with the short legs must take more steps and exert more energy to keep up with the long-legged person, in order that they remain side by side and arrive at the wall simultaneously. Each person represents “now,” and the number of strides each takes represents the number of successive “nows” each will experience before they arrive at the brick wall, which represents the Endpoint of time and space.

So, for each second that passes, our universe is heading toward a specific point in time (call it the end of time, or just the Far Future) and that, depending on the density of matter present therein, a given region may be headed for that specific point at a slower subjective rate than another region.

It's been experimentally confirmed that time passes slower in a gravitational “field”, and that the closer one gets to the center of the “field”, the more slowly time passes. It's also been experimentally confirmed that time also passes more slowly for an object in motion, and the faster the motion, the more slowly time passes.

But more slowly compared to what? It's almost meaningless to ask this. Instead, think of it more in terms of the electromagnetic spectrum. All EM waves travel at the same speed, varying only in frequency/wavelength. More on this concept later.

It is the presence of matter, specifically its density, which causes time to warp, or slow down, and the differences in time flow rates give rise to the force we call gravity, much as differences in atmospheric pressure cause wind.

POSTULATE #1: Time passes, moving from what we call the past into the future.

POSTULATE #2: It is the nature of everything in the universe to seek the nearest, quickest path to what, for lack of a better name, we shall call the Ultimate Endpoint. (This is actually a different form of the Second Law of Thermodynamics).

POSTULATE #3: The greater an object's density, the more quickly it will reach the

Ultimate Endpoint.

Gravity arises from Postulates 2 and 3. A dense object warps time, slowing time down in its vicinity (Postulate 3) and the intensity of the warping increases as the distance to the object decreases. This sets up a gradient. A less dense object coming near a more dense object will be drawn to the more dense object, since the less dense object is warping time to a lesser extent and will, in accordance with Postulate 2, seek the quickest path to the Endpoint. As an analogy, think of a region of higher pressure flowing into a region of lower pressure.

It's important to note that when we say time has slowed down in the presence of matter, we are still in step with the rest of the universe. Everything in the universe will get to the endpoint at the same instant, regardless of whether time is "running slower" in places. In other words, there is no "lag time," no duration between the time the faster moving objects hit the fan, so to speak, and the slower moving objects hit. (*The two persons walking toward the brick wall again*).

This is because it's a bit misleading to say that time is slowed down relative to another place. Eternity may take only a single second to come to pass, or it may take an eternity. When we say that time has slowed down, we really mean that it takes less subjective time to reach the Endpoint. A person trapped inside the event horizon of a black hole, if they could survive and somehow see outside, would witness eternity passing in the blink of an eye. This person has arrived at the Endpoint in an instant, even though measured from a lesser gravity field, time inside the black hole has come to a halt. In the old example of the rocket ship traveling near the speed of light, one hundred years or more pass on Earth during ten minutes of ship time. So we can say that time is passing more slowly on the ship. But is it really? The people on the ship have just traveled a hundred years into the future in a mere ten minutes subjective time. In a certain sense, time has actually passed more quickly for them. While we can say that time has passed more slowly on the ship, or inside the black hole, it's really another form of the old question, "Is the glass half empty or half full?" Either way time is passes at varying rates, and whether one says it is passing more quickly or more slowly is a matter of personal preference. For discussion purposes we'll say that time passes more slowly in the presence of matter. But either way you look at it, the more dense an object is, the more quick is the route to the Endpoint that it offers, and objects less dense will be drawn toward it in accordance with Postulate 2.

2. Thermodynamics

Time can also be analogized with the electromagnetic spectrum. All electromagnetic waves, light included, travel at the same speed, differing only in frequency/wavelength. A low frequency/long wavelength has a correspondingly lower energy than a high frequency/short wavelength. These variations are what keeps the various types of EM waves traveling at the same speed.

Likewise, all events at the current moment must happen in synch. Everything must arrive at the end of time, the Ultimate Endpoint, at the same moment. But how can they, if time is running slower in some places or faster in others? This brings us back to the point that a region of high mass density where time is running slower will not reach the Ultimate Endpoint later than the outside universe; it will simply reach the Endpoint with less subjective time having passed. This means that time, like light, in effect has a speed to which the various types must adhere. (The analogy of the two men walking toward the brick wall).

Thus, since a region of high mass density, such as a sun or a black hole, doesn't take as much subjective time to reach the Endpoint, it in effect has a longer "time wavelength" than a region of lesser density, such as a planet. A longer wavelength has a lower frequency, and corresponds to a lower energy state. In other words, higher entropy. Stretched time represents a state of higher entropy/greater disorder.

So when an object of low mass density is pushed "down the time-differential gradient" in accordance with Postulate 2, an object seeking the quickest route to the Endpoint, it can also be viewed as a system tending toward a state of greater disorder, in accordance with the Second Law of Thermodynamics.

As the less dense object moves toward the more dense object, an equalization process is occurring. The less dense object is losing "time energy," i.e. its subjective time is slowing down, while the more dense object is gaining "time energy."

3. Gravity in Greater Detail

Lets look moment by moment at what happens when a mass of lesser density comes near a mass of greater density. The space around all mass is time-stretched, gradually intensifying until the time-stretching reaches a maximum at the mass's surface. Since the lesser mass has the higher "time energy," (TE). when it reaches the fringes of the greater mass's time-stretched space, the lesser mass loses an amount of TE to equal to the difference in time energy between the lesser mass and the fringes of the greater mass's space. The surroundings likewise gain an equal amount of TE. Assuming the lesser mass has a much lower density relative to the greater mass, the lesser mass will still have a higher TE, so it will drift further toward the greater mass (following Postulate 2), gradually losing TE with each step, until finally it reaches equilibrium at the center of the greater mass. Thus what we call "gravity" works on the same principle as hot flowing into cold, not a curve or dent in the fabric of spacetime.

4. Quantum Mechanics

The effect of "time stretching" we've been discussing takes place mostly on a macroscopic level. Only large aggregates of matter are subject to it. If we look at atoms on an individual basis, we find that they

are actually lagging a bit behind us, timewise, because they simply aren't dense enough (not by a long shot) to warp time significantly. How can this be? How can time be passing more swiftly for the atoms of which I am composed than for me? It would seem that since atoms are a part of me, then they should be subject to the same "time stretching" as I am. But they aren't. If a heavy ball floats on water, it's not any individual atom of which the ball is composed that makes the ball float. It's the sum total of all the ball's atoms, and their arrangement, that makes the ball float. The same ball, if it were more compacted, might sink, yet the individual atom remains unchanged.

This fact shows up in the well-known collapse of the quantum wave function. As an analogy, picture a person pacing about a room for a few hours, following mostly the same path but sometimes striking out on a different path, but so that at the end of the few hours the person has paced over every square inch of the room. Now speed this up, so that the person performs all this pacing in the space of a single minute of your time. The person would just appear as one long, indistinct blur snaking throughout the room. The whole thing collapses when we try to pin the person to a single position. The blur disappears, to be replaced by another smaller, vaguely human shaped blur. The person is still a bit blurry because, due to our differing time frames, we have no single instant of "now" that is equivalent in both frames. This is what happens in the collapse of the wave function.

Because we are time stretched on a macroscopic level, the atoms of which we're composed are experiencing a faster subjective time than are we. We're slightly out of phase with our components, so to speak. The quantum wave function we're familiar with is actually a sort of blurring effect due to the accelerated pace of the atom's time frame. It's like touching a record on a spinning turntable with a forefinger dabbed in paint. The paint won't make a single spot where you touch, it will make a long smear. This is in a sense what we're witnessing with quantum indeterminacy. We're seeing a whole series of atomic configurations rushing past in a blinding blur, because we are time stretched, out of phase with the atom. The collapse of the wave function results when we peer through this hazy, ghostly mist and see the atom in freeze frame. Like putting your finger firmly on the turntable and stopping it from spinning.

POSTULATE #4: quantum indeterminacy will become more pronounced as gravity increases.

Quantum effects will be more pronounced in stronger gravity because the atom under study will be further out of phase with the observer.

5. Spatial Contraction

While we can do away with the notion of relativity's curved space, which can lead to all kinds of strange topologies and unnecessary complications, we must retain length contraction. If we didn't, as an

object accelerates, or “falls” into a “gravity well,” the more speed it gains, the less forward motion it would exhibit, due to time stretching. In effect, an object would be slowing down as it accelerated, which is clearly impossible. So space must necessarily contract along the direction of travel, to keep this impossibility from occurring.

6. Fluid Time

So what is time? What is its exact nature? Time permeates the universe; we are swimming in a sea of time. In fact, although time isn't actually a fluid, it can be treated as such. For illustration, we shall pretend that time is an enormous body of static water. All matter in the universe, empty space itself even, is then floating upon the surface of this ocean. According to the principle of flotation, an object less dense than the surrounding fluid will float, while an object with greater density will sink. For objects (mass) floating upon our temporal ocean, whose weight is equal to the force (time) that they displace, more subjective time will pass in reaching the Endpoint. But many objects (stars and such) displace more water (time) than other objects, so they are immersed in the fluid to a greater depth. When the density (mass/volume) exceeds that of the surrounding fluid, the object sinks (formation of a black hole). Totally sinking is the equivalent of reaching the Endpoint instantly. The depth to which an object in the universe is immersed in the temporal fluid determines how much time is warped. In other words, the extent to which time is warped by matter is determined by the amount of time displaced by the submerged portion of the matter. A massively dense object which is less dense than time will float, but it will be immersed more (displace more time) than an object of the same volume but with less mass. This “displaced time” is experienced as a stretching of time, a red-shifting of time, so that time passes more slowly in the vicinity of the warping object. A stellar object's escape velocity is the amount of acceleration needed to counteract this stretching of time.

It takes an object with an enormous density to displace (warp) a significant amount of time. Our own sun doesn't warp time significantly. But if we held its mass constant while reducing the volume, it will sink further. Similarly, if we held the volume constant and added more mass, again, there would be an increase in the amount of time displaced. This shows us that the fluid time has a very high density. So dense that even stellar objects don't displace much unless their mass is extremely compacted. People (you and me) displace an infinitesimal amount of time, if any at all. But suppose we boarded a rocket and accelerated. Because of the thrust (the G-force) our apparent density increases, and thus, time begins to warp. We are in effect adding more mass while holding our volume constant. This time warpage is not much at first, but it increases drastically the closer we get to light speed. But suppose we construct an enormous spaceship shell made of something as light as aluminum or such, something as big as a planet or a star but with an infinitesimal fraction of the mass. And then we accelerated. Time will not warp to a drastic extent, because our mass/volume ratio doesn't increase as fast. So it takes longer for us to displace

any time. Thus, theoretically, with a big enough spaceship we should be able to exceed the speed of light, with little or no time warping.

Time is all around us, although we can't physically touch it or see it. And not only does it pervade our universe "now," it also extends into the future. To think of it as a fluid such as water, enclosed within a container, is misleading but useful for analogy. If we think of it as such, we need also to imagine that there is more to it, extending in a direction we can't see. Sort of a box within a box within a box within a box ad infinitum, each box inside the box being the next moment in time.

Key points:

1. Mass displaces time much as it displaces water. This displacement is experienced as a shortening of temporal duration (time stretching).

2 Gravity is caused by a gradient resulting from differences in temporal duration between two regions. We can do away with relativity's notion that gravity results from a "dent" in the fabric of space-time.

3. All matter in the universe seeks the quickest route to the future; time stretching, slowing down, offers the quickest route, and so lesser masses "gravitate" toward greater masses. Since slower moving time corresponds to a longer wavelength and thus a lower energy state, "matter seeks the quickest route to the future" is simply a restatement of the Second Law of Thermodynamics.

4. Quantum indeterminacy results from the parts (atoms) not being time stretched to the same degree as the whole (a person, or a planet, etc). Thus the quantum wave function collapses when we peer "up a time gradient" at the atom

Take the classic illustration from Relativity, of the accelerating rocket and the light beam shined from one wall to the other. Measured from the rocket, the beam only travels, say, ten feet, the distance across the cabin. But relative to the ground the beam traverses a much greater distance, since the rocket has traveled a good distance, adding to the beam's traveled distance. But since observers on the ground and in the rocket must measure the same velocity for light, more time has passed on the ground than on the rocket. So, according to Relativity, light is unaffected by time dilation.

But, according to the Fluid Time Theory, light is affected by time dilation. As the rocket accelerates and the light beam is shined across the cabin of the rocket, the light beam actually **slows down**, from the viewpoint of the outside observer, while the observer in the rocket notices no change, since he too is time-

dilated. But the outside observer notices no change in the velocity of light either, since the ship is moving, carrying the light beam along with it, at speed that compensates for light's deceleration due to time dilation. Thus, both observers still measure the same velocity of light. In other words, for the observer on the ground, deceleration of the light beam due to time dilation is canceled due to the acceleration of the rocket, while the observer on the rocket notices no change in light velocity since he is time-dilated along with the light he's measuring. At relativistic speeds the magnitude of time dilation, or slowing of the light, is directly proportional to the rate of acceleration of the rocket.

This also explains why light is bent by "gravity" even though gravity is not a curvature of spacetime, as Relativity contends. When a light wave enters the "gravitational" influence of a star, the wave's path is bent slightly as "gravity" takes hold and attempts to pull the wave toward the star. The parts of the wave that are closer to the gravitational source slow down as time is dilated, while the outer edge continues on through space at nearly the original rate. This causes the wave to swing around the gravitational source. It's analogous to a line of ice skaters holding hands. If the skaters on one end of the line slow down and the others keep moving at their original speed, the line will begin following a curved path rather than a straight path.

We can thus conclude that light traveling through space will change velocities, for an outside observer, as the light passes through regions of differing time-dilation, since most light will not be traveling on a rocket in motion, as in the example above. This explains astronomical observations of red-shifts that seem to contradict the theory of the Big Bang, or rather, the discovery made by Hubble, which maintains that all stellar objects are receding from one another at the same rate. Light cannot be an accurate measurement of the recessional velocities of stellar objects since the speed of light to an outside observer will vary depending upon the magnitude of gravitation in a given region of space. Light being used for the measurements may, at different points in its journey across space, have traveled slower than c .

14.

Suppose two people take a trip from one city to another, using separate vehicles. They take identical routes. If person A takes 2 hours to get to the destination and person B takes 3 hours, we say that person A must have traveled at a faster velocity. This is elementary. Why, then, when a physicist discusses time dilation, as in the case of the "twins" paradox, for example, does he say that, for the twin traveling on the rocket, time has "slowed down?" This is the customary interpretation of the time dilation involved. But this is analogous to saying that, in the above example of two people traveling between cities, since person A reached the destination sooner, he must have traveled at a slower velocity. Such a conclusion is obviously incorrect. Yet what is time dilation, if not merely a traversal between two temporal events? Does it make sense to say that the person who experiences the least duration between the same two

events must have crossed the intervening temporal distance more slowly than the person who experiences a greater duration between those same two events? Yet this is precisely the conclusion that modern physics draws when it considers relativistic time dilation. It is an incorrect conclusion. For an object accelerating toward light speed, time is not “slowing down.” Such an object is experiencing temporal acceleration along with spacial acceleration.

15.

“Time is what keeps everything from happening at once.”

This well-known saying is the key to building the bridge between relativity and quantum mechanics.

The Double Slit Experiment.

The classic double slit experiment involves two separate demonstrations.

In the first, a beam of light is shined through two closely-spaced slits onto a wall or photographic plate, producing a wave-like interference pattern.

In the second, single photons are shot at the double slits with an interval between each shot. With one slit closed, a single bar is built up over time behind the open slit. With both slits open, the single photon strikes build up a wave-like interference pattern on a photographic plate.

The first demonstration is used to show that light is a wave-like phenomenon. The second to show that it is a particular phenomenon. The contradiction between the two is known as the “particle-wave duality,” and is the source of much controversy and many theories have been put forth to explain it. Quantum Mechanics says that light is a wave until observation collapses the wave into a particle.

But in fact there is no contradiction. Photons are particles, not waves, and each portion of the double-slit experiment is precisely what we should expect given our knowledge of relativity, as I shall show. The so-called “collapse of the wave function,” though completely valid, is merely a shift in perspective between the two portions of the experiment.

The Explanation.

Relativity was born when Einstein, so the story goes, asked himself what a light beam would look like if one were to catch up to it, traveling alongside it. To reconcile the contradictory results of the double-slit experiment, we ask ourselves a similar question: what does the outside universe look like to a traveling photon?

From the perspective of a photon, there is no time. Its motion is entirely through space. From the famous saying that opens this paper, it follows that, where there is no time, everything happens at once. A

photon witnesses no temporal distance between events. Events are compressed into a single temporal point.

In the double-slit experiment, a scientist fires single photons over time at a double slit. He sees an interference pattern slowly build up, over time, and wonders how this can be, when there is apparently nothing to interfere with each photon. But from the perspective of a photon, which experiences no time and hence sees everything in the outside universe happening at once, it is not passing the double slitted intervening wall in isolation. All the singular photons the scientist is firing at the wall are shooting toward the wall simultaneously, *en masse*. And these photons are not even actually traveling, from their viewpoint. They have reached their destination instantaneously, since, from their viewpoint, no time is involved.

From the scientist's perspective, he is firing photons at intervals, and sees no reason for the interference pattern that emerges. But to the photon, all the photons which the puzzled scientists fires over time are there simultaneously to interfere with its passage, thus the wave-like interference pattern on the photographic plate.

As I have shown, both experiments give the same result because they are the exact same experiment, from the photon's point of view. In the second part of the experiment, the photons do not recognize the interval of time that the scientist observes. Each photon is there to interfere with the others. And thus the so-called collapse of the wave function is merely a mathematical tool to compensate for the temporal view of the scientist.

The EPR Experiment.

The EPR paradox can be explained in the same manner. Widely separated quantum particles originating from the same source, though they may have become separated by any number of light-years, are, as far as the particles are concerned, still together. Because the moment of their firing in different directions, and the subsequent moment of a reading of the state of one, are not temporally separated events, from the perspective of the particles. They are, at once, both together at the source, *and* widely separated from one another. They are, all at once, present *everywhere* along their respective paths, because no events are temporally separated, from their viewpoint. The two particles in question are forever in immediate contact with one another. "Spooky action at a distance," or FTL communication between the two, is a phantom of our temporal viewpoint.

Objection.

The astute reader will raise an obvious, seemingly insurmountable objection.

In the second part of the double-slit experiment, each individual photon experiences two events: 1)

the emission of the photon from the emitter, and 2) the striking of that same photon against the photographic plate.

Even if, as I've said, each photon recognizes no time interval between these two events, these events are the only events of which the photon can have any knowledge. Any event which lie outside the events 1 and 2 of an individual photon are outside the scope of that photon's knowledge. And the firing of a successive (from the viewpoint of the scientist) photon lie outside the previous photon's scope. In other words, even if, from the viewpoint of any given photon, time is compressed into a single point, i.e. events 1 and 2 are superimposed, any prior or subsequent photons lie outside the range of that particular photon's temporal compression, and hence cannot affect the photon in question.

Given the above, a photon, in its brief life of the experiment, should not encounter any other photons on its journey. So there should be no interference, and my whole idea is irrelevant.

The contradiction between the two phases of the experiment still exists, and I've explained nothing.

Response.

The above objection is valid, from the viewpoint of a single photon.

But we're dealing with the whole experiment here, from the viewpoint of the scientist. The scientist observes two events as well: 1) the emission of the first photon, and 2) the striking of the final photon against the photographic plate.

From this viewpoint, events 1 and 2 for each individual photon, as outlined in the objection, become sub-events that lie between two "master" events. It is these two "master" events we must consider when explaining the double-slit experiment, not the sub-events attached to each photon. Each and every photon emitted during the experiment lies between these two "master" events.

In this process, we are looking at the universe from an atemporal view, a view where all temporally separated events are compressed into a single point, a sort of temporal superpositioning where all events happen at once. It's just a matter of choosing at which level we draw the line between observer and observed. Because, when you get right down to it, from the ultimate viewpoint, namely that of a photon that has been traveling unimpeded since the birth of the Big Bang, all the universe's history thus far, all the billions of years of it, are compressed into a single point. If we were able to ride on this photon and look outward, we would see the entire history of the universe in one superimposed, cacophonous jumble. This compression of temporal events into a single point is a natural consequence of relativity, and if we choose to believe in relativity, we must accept this consequence. Any viewpoint then becomes equally valid, whether it be a singular photon in our double-slit experiment, with its 2-event life; or the multitude of photons enclosed by the beginning and endpoint of the whole experiment; all the way up to the highest viewpoint there can be, that of the most ancient photon in our universe.

POSTULATE: Events which involve objects moving at relativistic speed (such as photons), and which appear to us to be separated by temporal intervals, are actually happening simultaneously, and should be treated as such, and are able to affect each other instantaneously, provided they have been or will be in physical contact. Example: a photon leaves an emitter, and a few minutes later another leaves the same emitter. These events, although appearing temporally separate to us, should be treated as if they're happening at the same time, because, in a very real sense, they are.

16.

Various brief notes

Since, by this theory, space is not curved around massive objects, and given that light is affected by gravitational "fields," light must have mass.

The speed of light is the speed beyond which it would require an infinite amount of energy to accelerate light. But I propose that for every given mass there is a corresponding speed beyond which that mass requires an infinite energy for further acceleration. Since the days of Einstein it has been contended that light is the ultimate speed limit; nothing may be accelerated beyond light speed, because approaching light speed the necessary energy for further acceleration becomes infinite. But light is not the upper speed limit of the universe. **The greater an object's resting mass, the lower its terminal acceleration speed; since light must have an almost negligible resting mass, it has an extremely high terminal acceleration speed.** This makes intuitive sense. If we assume that every mass of a given size has a fixed terminal speed unique to that size, and we know that acceleration mimics an increase in mass, then more massive objects will reach that terminal speed more quickly than lesser masses, given identical acceleration. Thus for years it has been mistakenly assumed that nothing can be accelerated beyond light's terminal speed, since most everything in the universe has a much higher resting mass than light. **But: any object with a lower resting mass than light will have a terminal acceleration speed higher than that of light. Thus, an object less massive than light can be accelerated past light speed.** Hence, tachyons, which are theorized to travel faster than light, can exist, and will have a smaller rest mass than that of light.

Now wait a minute, you say. Light has no mass, so your whole theory is wrong. On the contrary, current accepted theory must be wrong. **Light has a mass** associated with its energy, as does any form of energy. It may be a "virtual" mass, a fictitious mass, much in the way that acceleration mimics gravity--if you're in an accelerating rocket, you're going to feel a pull in the direction opposite the acceleration, and could mistake it for gravity. Thus it will also have a virtual rest mass, if not a real one. Its time wavelength has also been stretched out, so that, from say, our own reference frame, time is passing almost infinitely slowly.

Since acceleration mimics an increase in mass, **if the rest mass of an accelerated object is sufficiently high, acceleration to its terminal speed will cause a “black hole” effect**, the same as would occur when a sufficiently massive stationary object is compacted beyond a certain point.

So to recap, there is associated with every mass a speed at which that mass approaches infinity, and so will require infinite energy to accelerate further, which is impossible. And under acceleration, a more massive object becomes more massive more quickly than a lesser mass, so it will reach this terminal speed (the speed at which the mass approaches infinity) more quickly than the lesser mass. This terminal speed is independent of the rate of acceleration, but it's useful to hold acceleration identical and constant when comparing objects of differing masses. For most mass in the universe, the terminal speed would seem to be clustered within a narrow spectrum near light speed. And the equation $E=mc^2$ only holds for masses with a greater resting mass than that of light.

Smaller masses require more energy input, relative to a greater mass, to be converted to energy.

Here's a good visualization. Say we shot a 1984 Ford T-bird into space and kept accelerating it until its mass approached infinity. And say we also shot Mini-me, the midget from Austin Powers, into space and accelerated him at the same rate right alongside that T-bird and accelerated him till his mass approached infinity. Ultimately, the T-bird would reach a maximum cruising speed less than Mini-me would be able to attain, so eventually Mini-me would go shooting right past the T-bird, still accelerating. And say we also shot a tennis ball (I assume a tennis ball weighs less than Mini-me) into space alongside the T-bird and Mini-me. Eventually Mini-me would top out as well, and the tennis ball would continue accelerating, leaving Mini-me to give it the finger as it zoomed past him into the depths of space. This is because greater masses have lower cruising speeds than smaller masses. Hence, there may be a particle in the universe with a lower resting mass than that of light, so it would be able to go faster than light.

So the universe *does* have a speed limit, but it doesn't necessarily have to be light speed.

Escape velocity must therefore be the speed an object needs to obtain to surpass the more massive object's terminal speed. In other words, since gravity is analogous to acceleration, an accelerating object attempting to break free of the gravitational pull of a more massive stationary object (i.e. a rocket and a planet), must surpass the terminal speed of the more massive object. It must reach the terminal speed associated with the more massive object, whereupon it can continue accelerating (the tennis ball passing Mini-me). This is where density comes into play. Because density must be taken into account as to whether a star will form a black hole, density must therefore be taken into account as to whether an accelerating object will be able to reach its terminal speed. A given mass with a smaller volume will have a lower terminal speed than the same mass with a greater volume. That lower terminal speed is the acceleration analogue of the gravitational “critical circumference” as to whether an accelerating object will form a black hole.

Say we have a star that has collapsed to form a black hole. The star emits a beam of light, the light streaks upward, but is unable to escape the hole's gravitational pull. Eventually the beam falls back to the star. If we ignore the surrounding universe, looking at only the star and the beam, choosing the beam as a stationary reference frame (since we can't tell, without an outside reference, which of the two is moving), the star accelerates and absorbs the beam. In a manner of speaking, since light is unable to escape the pull of a black hole, the black hole is traveling faster than light.

Considering the above, we can reason that it should be possible to accelerate an extremely large mass beyond light speed. But as previously illustrated, it isn't possible, since maximum possible speed decreases with increasing mass. Or is it really impossible? The black hole example shows that extremely massive objects *must* be able to accelerate past the speed of light. And since the formation of a black hole depends on the density of the seed star, we can reason that an accelerating object's maximum speed depends not on mass alone, but on mass per volume--density. Specifically, an accelerating object must be able to surpass the density of light before the object reaches its own maximum speed. If not, the object will not be able to travel faster than light.

What is the density of light? Reasoning from the black hole analogy, light must have a surprisingly high density, so high that it takes an extremely compacted solar-size mass to equal it. Or an object with a sufficient resting density that can be accelerated to equal light's density before the

The collapse of a sufficiently dense star to form a black hole is equivalent to acceleration. In this case, acceleration past the speed of light.

17.

META-SOUL

Our physical brains act as a sort of lens that focuses something external, a focal point for an energy (our souls) that permeates the universe. In the same manner that a lens focuses an EM wave, or a radio dish. Our souls are all actually the same, part of the same "soul energy" that permeates the universe, and our physical brains produce a unique resonance with a given frequency of this energy, making us believe we are actually different individual people, when actually, on this greater level, we are all the same soul. We're merely different frequencies of the same meta-soul, and our brains are focal points, lenses, for this meta-soul, like a prism breaking white light into a spectrum. Our brains, in a sense, filter out one color of the meta-soul's spectrum.

Various brief notes, mostly relating to the Fluid Time Theory

One of the simplest truths is that time passes. Everywhere in the universe, in every nook and cranny, time is ticking by. What isn't so simple is that time doesn't pass as quickly in some regions as in others, a person living in a particular region might not experience the same number of "nows" as a person in another region. This doesn't mean that each region has the same number of "nows" allotted to it as every other region, and that the regions where time is passing more quickly will use up its "nows" and then wait while the slower regions use up their allotted "nows." Rather, every region in the universe is in perfect synchrony. We can thus imagine a **universal moment**. During any given universal moment, an object in one region may experience one subjective "now" while an object in another region experiences a hundred subjective "nows." But when the final buzzer sounds, it will sound everywhere without regard for how many subjective "nows" have passed. In other words, the universe isn't keeping track of subjective moments; it's only concerned with universal moments.

So it's as if we're immersed in a temporal sea, a **temporal medium** that, in effect, contains regions of high and low pressure. And as I will show, this picture of the universe can be used to explain gravity, light, quantum mechanics, why the speed of light is constant, and various other phenomena.

Imagine a spectrum with electromagnetism at one end and gravity at the other. Which end of this spectrum is manifesting itself in any given situation depends on the scale. If the source is at the atomic scale, we label it electromagnetism, and if the source is at stellar scale, we label it gravity. But they are two different names for the same phenomenon. And this phenomenon is caused by differences in the rate at which local time passes.

The tiniest bit of matter that is possible (an electron?) will experience a near-infinite succession of "nows" in a given moment, due to its almost infinitesimal mass. We can thus say that this particle is the most "time energetic" bit of matter in the universe. Since it is just one step below the infinite succession of "nows" that empty space must experience, this particle would be the least time-dilated matter in the universe. For it, the End of Time would take a nearly infinite succession of "nows" to arrive. Contrast that with a black hole, which is the most time-dilated matter in the universe, which experiences just one "now" while in the outside universe eternity has flashed by. This is an extremely difficult but necessary concept to grasp. In both cases, the same "amount" of time has passed.

Since a smaller object being drawn toward a larger object gives up its time energy, which is absorbed by the larger object, thereby increasing the larger object's time energy, there will come a point at which

the larger object is no longer time-dilated. At this point it will no longer be a “gravitationally attractive” body. The satellite matter it has already accumulated will remain, but any new matter passing nearby that otherwise would be drawn toward it no longer will be. In fact, some of the satellite matter, if this passing object is more massive than the satellite matter, will be drawn toward this new, passing object. As long as the slightest bit of time dilation remains, though, a more massive body will always be attractive to a less massive body. In the case of the proton and electron, we attribute this to “charges,” while in the case of planets and stars we attribute it to “gravity,” each of which is actually due to a sort of “time-dilation pressure.”

The proton is the largest elementary particle that exerts any significant time dilation induced attraction on smaller particles. The time-dilation/density curve abruptly levels off above the proton density, and though larger aggregates of matter occur, none exerts any significant time-dilation attraction until we reach the stellar scale, where the time-dilation/density curve abruptly steepens again, rapidly, until we reach the black hole, where time energy is nearly zero (i.e. the End of Time arrives after a “now” that takes an eternity--to an outside observer-- to pass).

What we have labeled “positive and negative charges” on the proton and electron respectively, is actually just the direction in which things are pushed due to differences in the time flow rate. Since protons are more massive and thus have less “time energy,” an electron is “drawn” toward a proton.

Superconductivity

The mechanism behind the “mystery” of superconductivity is easily explained in terms of “Fluid Time Theory.” Atoms cooled to Absolute Zero contract, increasing their density. This in turn lowers their time energy, allowing them to accept more electrons, which promotes electron flow in the metal.

Like charges in the nucleus of an atom do not repel each other because once they are pushed together, past a certain radius, the protons become part of the same system; they become one, for all practical purposes. Much the same way that humans and everything on the surface of the Earth can be considered a part of the Earth's total mass, even though they are all technically separate things, and the moon could NOT be considered part of the Earth's mass. For example, if Earth were bombarded by a lot of asteroids, and assuming the asteroids and Earth both survived the impacts, then the asteroids, resting gently on the surface of the Earth, though separate and distinct masses, would have increased the effective total mass of Earth.

PREDICTIONS OF MY THEORY:

1. There is a limit to the number of planets a given star may host. We can keep adding planets to the

system, restoring time energy to the star, until it is no longer gravitationally attractive to new planets. In effect, “gravity” is a finite force that can be used up. Look, for example, at the so-called “noble” gases. They have all the electrons they can host, and thus will accept no more.

2. We can reduce the time dilation effect of, say, the Earth, by placing a lesser but significantly dense piece of matter nearby. The smaller body will give up some of its time-energy to the Earth until equilibrium is reached, thereby reducing the amount of time dilation on Earth.

Like “charges” in Region 1 (see chart) repel one another because they have the same time dilation, and if they were to come into contact, their time dilations would effectively cancel one another out, making their time energies infinite, which nature does not like (all things seek the lowest time energy), so they repel. This repulsion effect is only possible in Regions 1 and 3, i.e. atomic scale and stellar scale. This is because matter in those regions lies on the steep portions of the time energy/density graph. However, neither Regions 2 or 3 will experience repulsion, because 2 and 3 consist of aggregates of matter, whereas Region 1 matter is elementary in nature. Thus there is no such thing as anti-gravity.

It’s all a matter of scale. The effects we see in Region 1 occur between matter that is relatively close together. Two atoms are not separated by an equivalent of several light-years, as are solar systems. If atoms were solar systems, Alpha Centauri, for example, would be a lot closer to Earth than several light-years. Thus the atomic world is crowded compared to the macroscopic world, and though the same principle, “The Fluid Time Theory,” governs both, interactions in the atomic world will be much more numerous, spectacular, and strange than those in the macroscopic world.

Electrical effects (currents, etc.) are possible precisely because of the relative crowding of the atomic world, and the sheer number of atomic particles. Electrical effects could be generated on a stellar scale, but there simply aren’t the numbers and density of stellar-scale matter, compared to atomic scale matter. For example, on the stellar scale we don’t see hundreds of planets ripped from stars to go shooting through space at thousands of miles an hour, which is the equivalent of what happens on the atomic scale. Macroscopic space is simply too vast, too empty, for stellar-scale electrical phenomena. That is why such things only happen in Region 1, at the atomic scale. Although electrical effects may be happening on the stellar scale in some parts of the universe. I recall reading an article about vast flashes of light being observed almost at the observable edge of the universe, almost like a storm of sheet lightning millions of light-years across. Perhaps stellar lightning is being generated between two opposing, dense walls of stars that are sufficiently close together, almost like lightning on Earth, from clouds to the ground.

The neutron may be “neutral” because although its mass is the same as the proton, its volume is so much greater that it is less dense than any other particle, and thus has the greatest time energy. Perhaps this makes it non-reactive because it is somehow stuck in the highest energy state, sort of like a large beach ball floating on the surface of a bucket-full of water--it’s extremely difficult to push the large beach

ball beneath the water in such a case.

Time Energy is measured by the number of “nows” that a mass will experience in any given length of time. For example, a smaller mass may experience one hundred “nows” in the same duration that a larger mass will experience fifty “nows.” The smaller mass is said to have more time energy than the larger, and thus will “gravitate toward the larger mass, since all matter seeks the least time-energetic state.

Time-dilation is to gravity as electricity is to magnetism. We can thus define a new force similar to the electromagnetic force: the temporogravitic force. Just as magnetism is produced by a moving electric charge, so too is time-dilation produced by an accelerating mass (or a stationary mass that is changing, such as a collapsing star). Mass produces time-dilation; time-dilation cannot be present without mass. Like electricity and magnetism, time-dilation and gravity are two sides of the same force. The one cannot exist without the other. Electromagnetism. Temporogravitism. Temporogravitism applies on (originates from) a stellar scale, while electromagnetism applies on (originates from) the scale of the fundamental atomic particles. Large aggregates of compound matter = temporogravitism, fundamental atomic particles=electromagnetism. On the intermediate scale, both are manifested.

Time dilation is produced by a stationary mass, such as a planet or a sun. However, there should be another phenomenon akin to time dilation, when that mass changes, or is under acceleration. Consider a star which is collapsing to form a black hole, or a spaceship accelerating toward light speed. In each case, the amount of time dilation is changing, increasing. This should produce an effect different from the ordinary time dilation associated with an unchanging, or stationary, mass. This effect would be the equivalent of a changing magnetic field producing an electric current.

Gravity works thusly: a lesser mass coming near a greater begins the process of temporal equilibration, shedding its excess time energy. Since each density of matter has a specific time dilation associated with it (greater masses are more time-dilated, less time-energetic), as the lesser mass sheds its time energy it takes on the time-dilation associated with a mass greater than itself. And so the mass accelerates, in effect taking on more mass so there is no discrepancy between the mass and the time dilation. The direction of this acceleration is along the “temporal gradient” between the lesser mass and the greater. Just as a changing magnetic field generates an electric current, so too does a changing temporal dilation produce acceleration, which we know as gravity.

Let's take a closer look at this. Let's say a rocket in the depths of space, far from any mass, accelerates (either positively or negatively), the direction of that acceleration mimics either an increase or a decrease in mass, and so in turn the rocket's time dilation changes. This is an example of changing density (acceleration) producing time dilation.

A stationary mass also produces time dilation in the surrounding space. This change isn't abrupt; There is no solid line on one side of which time in a given universal moment is passing at, say, ten "nows" and on the other side it's passing at five "nows" per UM. Rather the change is gradual. We'll use a planet in this example. As a moving mass approaches the planet, the mass will encounter first a region of slightly time-dilated space. The difference between the two regions constitutes a changing time dilation, and because of this the mass will accelerate to compensate for the density/time-dilation imbalance. The direction of this acceleration is always toward the greater mass, since that direction offers the least resistance, representing as it does the direction of increasing entropy (less time energy).

So: changing density (acceleration) causes time dilation, and likewise in reverse, changing time dilation produces acceleration (changing density). Very similar to electromagnetism, hence the term temporogravtism.

PROBLEM: if the speed of light is the universal speed limit, then light is as time-dilated as something can be. So it shouldn't be affected by "gravity," since according to this theory gravity is a result of differences in time dilation. Yet we know that light IS affected by gravity. **CONFLICT!!! MUST BE RESOLVED!!!.**

What is light? Light is a disturbance, a ripple, passing through the "temporal medium." A temporal wave, if you will. In effect, a gravity wave. Everything is temporally dilated to some extent or another, even empty space. Empty space is the most time-energetic, being the least time-dilated due to a lack of mass. But time dilation is everywhere. And light is a disturbance passing through this "temporal sea," a disturbance passing through at the "speed" of time, which is that of light.

What is meant by the speed of time? The speed of time is that speed an object would have if its motion through time were translated entirely into motion through space. In other words, time is as dilated as it can possibly be, meaning that the least number of subjective moments are passing. This means that an object is as dense as it can possibly be, i.e. a black hole, or it is traveling as fast as it possibly can through space, i.e. light speed, having attained its maximum-possible density through acceleration. *******DELETE THIS NEXT PART******* It has nothing to do with time-dilation, with the number of subjective "nows" an object will experience before it reaches the "end of time." It has to do with the "universal moment," with which nothing can ever be out of step. During any given "universal moment," an object may experience one subjective "now" while another experiences a hundred subjective "nows." That "universal moment" is what we use to measure the speed of time, when that "universal moment" is moving entirely through space rather than time. **DELETE PRECEEDING*******

Anyway, what we know as light, indeed all electromagnetic phenomena, is a disturbance, a wave, traveling through the "sea" of time-dilation that permeates the universe. And while it travels at a constant speed, c , each wave carries with it the signature of the time dilation of whatever gave rise to that

particular wave, a signature that we know as “frequency.” Thus each light wave is a bundle, or “photon,” of temporal energy traveling through space at c , and when that photon hits a mass or other obstruction, its temporal energy is imparted to that mass.

The emission of photons. In accordance with our theory, electrons further from the nucleus have higher temporal energy. When an electron moves closer to the nucleus, it must shed this excess time energy, which is released as a photon. The frequency of this emitted photon is equal to the amount of time energy difference between the further and closer position. When this emitted photon encounters another atom, this atom absorbs the photon, i.e. the atom gains temporal energy. If the gain in temporal energy, i.e. the frequency of the photon, is great enough, the atom may now have a higher temporal energy than surrounding space, in effect becoming momentarily gravitationally non-attractive, and one or more electrons will accelerate away from the nucleus, drawn toward the temporarily lower TE surroundings. The atom may lose these electrons completely, or a new equilibrium will be reached with these electron(s) now in a higher TE state (a higher-energy orbital).

The double-slit experiment. In this classic experiment, single electrons or photons fired at intervals through two slits inexplicably form an interference pattern on a photographic plate, indicating particle-wave duality. What is actually happening is this: a photon's passage (or an electron's; any passing time-dilated mass will cause this effect) disturbs the temporal medium, leaving a sort of imprint of itself in the medium. Like a wake thrown up by a passing boat, or the turbulence that persists for a brief time after a stone is tossed into a still pond. If another photon is shot through the other slit before this “imprint” has faded, the second photon, which is a wave passing through the temporal medium, will encounter interference from the “imprint” of the first photon, and thus an interference pattern is gradually produced on the photographic plate. It's like throwing one stone after another into a pond, before the turbulence stirred up by each preceding stone has faded.

The speed of light is *not* constant--but we'll never know that. The temporal medium is non-homogenous in that it consists of regions with varying time dilation. This can be pictured as regions of varying density. And the speed of a wave depends upon the density of the material through which it moves. So it is with light. Light, like everything else, cannot be out of step with the Universal Moment; indeed light is a measure of the universal moment. So when it enters a more or less time dilated area, its speed is adjusted accordingly.

Let's go back to the analogy of the short-legged man and the long-legged man who must walk side by side, so the short-legged man is forced to take more steps than the long-legged man. Light can be viewed as a strange shape-shifting man who, when he comes near the short-legged man, transforms into a short-legged man himself, and when he comes near the longer-legged man, transforms into a long-legged man. And neither the long-legged man nor the short-legged man is able to so see the shape-shifting man or measure the size of his legs until he comes close to the one who desires to make the measurement.

Put another way, anyone within a particular region will measure the same speed of light as they would

anywhere else, for their time frame will always match that of the light they're measuring. The light we measure will always travel at the same speed because it is always within our time frame when we measure it, regardless of its origin. Due to the nature of light (or any electromagnetic wave) we will never be able to detect a variation in its speed because we must always measure its speed from within a region that adjusts our measuring instruments to compensate for any differences we might otherwise detect. An analogy would be a person trying to measure the speed of a particular type of wave through various liquids, but to make his measurements, he must completely immerse himself in each liquid and in so doing the nature of his instruments is altered to fool him into thinking he's still in the previous liquid and give him the same speed for the wave as in that same previous liquid.

This of course applies only to experiments attempting to measure the speed of light from within one's own time frame. But most of the light we see through telescopes comes to us through wide open space, where light travels at its maximum speed, free of any temporogravitic time-dilation influences. So attempts to measure the speed of light throughout the universe will measure the same speed as well. Though the effects of its varying speed can be seen, for example, in the bending of light around our own sun. This is actually a form of refraction.

What I'm trying to say by the above, if I haven't managed to get my idea across, is that if we measure the speed of light in a closed laboratory here on Earth, and then travel to outer space, or a planet of different density, or even accelerate in a rocket, and then conduct the same experiment in another closed laboratory, we will measure the same speed as we did back on Earth. *but*, if we peer outside our current time-frame, at the wide universe, the vast majority of the universe will give us a constant reading as well, though in a few cases (light coming near extremely large masses) we will see evidence of light's varying speed. In other words, we must study the "trail" of the light over vast (stellar) distances, rather than over small distances. And even in the majority of the vast distances we shouldn't detect much difference.

In electricity and magnetism, like charges repel and unlike charges attract. Why isn't there an equivalent with gravity and time dilation, i.e. why don't masses with like densities or time dilations repel? The answer is: they probably do repel, but such things coming into contact on the scale where the effect would be measurable just don't occur often, if at all. We can't test for it on an everyday level, since holding, say, two peanuts of identical density near one another wouldn't produce a measurable repulsion, just like they don't produce a measurable gravitational attraction. In any case such a repulsion, if measurable on such a small scale, would probably be overwhelmed by the Earth's own gravity, making it *unmeasurable* for all practical purposes. And we don't see gravitational repulsion on a stellar scale because stellar scale matter is just not numerous enough for two planets or stars with absolutely identical densities to come near one another very often. There's too much open space. But on the atomic scale matter is extremely crowded, and so we notice such effects as repulsion and attraction. Also on an atomic scale we're dealing with elementary particles, most of which have identical densities, whereas on the

stellar scale we're dealing with large aggregates of compound matter, so the chances for identical densities on a large enough scale are very slim.

The light with which humans are familiar is generated by atomic scale matter in motion. But stellar scale matter in motion, say, something the size of our sun, moving at a very high speed, would produce light also, very intense light, light more intense than anything we're used to.

What exactly is meant by a "disturbance" passing through the temporal medium? Let's say a photon is emitted by an electron that moves closer to its nucleus. This photon is actually a sort of "bump" in the temporal medium that moves away from the atom at what we call light speed, and its frequency, that is, its time energy, is equal to the difference in time energy between the electron's initial position its final position closer to the nucleus. A photon is only emitted when the electron moves closer to the nucleus because in so doing it must shed time energy, whereas to move away from the nucleus it must absorb time energy.

As this "bump" we know as a photon moves through space, it momentarily alters the local time energy to match its own, and after the photon passes, the surrounding TE returns to its initial value. This is the same as a wave passing through water. The individual water molecules don't move any horizontal distance as a wave passes; they merely are agitated vertically and gradually settle back to their original position.

19.

We should be able to construct a spaceship (or any sort of vehicle) with an endless supply of fuel by somehow making the space around one end have a lesser time dilation than the space around the opposite end. The lesser time-dilated region will be drawn toward the greater, producing acceleration along that vector. We can produce stronger or weaker accelerations by varying the difference in dilation between the two regions, i.e. making the time dilation in one region either more or less pronounced, depending on the strength of the acceleration we desire.

20.

A mass in a state of free fall and under the influence of a second, larger mass's gravitational field, will not, assuming it is not able to sense its surroundings, be aware that it is under gravity's influence. It will not become aware of the influence of gravity until something impedes its progress toward the attracting mass, i.e. the ground. Thus, it is resistance from the ground, impeding our mad rush toward the center of the Earth, that makes us aware of gravity's pull, not the tug of gravity itself. In the absence of any

information from our eyes and if wind resistance weren't a factor, we would not be aware we were being pulled toward Earth by gravity until we hit the ground.

Likewise I believe our spatial universe is in a state of temporal free fall, being drawn by...something...into the future. Time dilation, much like wind resistance or hitting the ground, is the means by which we become aware that we are being temporally pulled into the future.

Matter is frozen time, a bit of spacetime that has "crystallized" due to a loss of time energy. As the temporal universe expands, it loses energy and slowly condenses into matter. Thus, at any given instant, all over the universe, hydrogen atoms should be "springing" into existence, apparently appearing out of thin air (or thin vacuum).

21.

Our universe has two temporal poles, one in what we call the past, one in what we call the future. Having our physical origins in the direction of the past temporal pole, we are being drawn toward the future temporal pole. In a sense, we can say that we (everything in our universe at the present moment, at "now") are like a temporal current flowing between the poles. Empty space is a good conductor of this temporal current; matter, however, impedes the flow of the temporal current--it is a poor conductor. As such, it acts as a collector, accumulating temporal current, temporal energy; this accumulation "slows" time down for anything near a given mass, and it also sets up a "temporal charge inequality" or gradient, which "pulls" lesser, and hence opposite, charges toward it, in the same way opposing electrical charges are attracted to one another. This is, of course, what we know as *gravity*.

The temporal current accumulated by matter can "bleed" off small bits of matter, such as an electron, which, perhaps due to their small size, are unable to contain the temporal charge. This "bleeding" temporal energy manifests itself spatially as a magnetic field.

22.

Do you have free will? Look at things this way. Tomorrow, years or decades from today, assuming you are still living, you are going to be a certain way. You will be living a certain type of life. That type of life will depend upon the choices you make today. There is no doubt, assuming you are alive at that time, that that time will indeed come to pass. In the future, you *are* a certain person based on the choices you have made previously. Your becoming that person is inevitable. So in effect, in order to have become that future person, you *must* make certain decisions today. To become that future person, there is no choice *but* to make certain decisions today. When you arrive at a point where you must choose, where you must decide, you think you are free to make the choice one way or another.

But you aren't. Because the person you will inevitably be far in the future has made the choice for you. There is only one path you can trace out through time to become that person. In effect, the future is affecting the choices you make today. Your future is the *cause* of your choices today, not the effect of them, not the outcome. Because from the viewpoint of that far future person, *you* are the past, and you are set in stone. If we accept the inevitability that we will be alive tomorrow, and barring any unforeseen catastrophic events in our lives, there is no reason not to assume this, then we do *not* have free will. Free will is an illusion. You are just along for the ride, being dragged inevitably, irresistibly, toward your future self.

23.

My main problem with relativity, and, I believe, relativity's fault, is its insistence that light rays, and light rays only, can determine what is "simultaneous." We can never know what is happening "now" on a distant planet because it takes time for light rays from the distant planet to reach us. A third planet, or an object in motion, closer to this distant planet would assign a different moment to the distant planet's "now" than we would, and thus we can never agree on "now," or simultaneity.

In my view this is patently absurd. It's akin to someone saying, "Since I can't see or, using any other means, determine, what is happening in the next room, then I can never know what is happening in that room *right now*." Likewise, according to the idea behind relativity, if I find out at 5 PM that an event A in the room has *taken* place, and my neighbor learns of the same event, but learns of it at 6PM, then my neighbor will conclude that event A happened at a later time than I will. But event A happened at a set time, *regardless* of when either I or my neighbor learned of it. The fact that my neighbor learned of the happening later than I did doesn't mean that there is an actual, temporal discrepancy of *when* event A occurred. The *when* of the happening is not some indeterminate moment that varies depending on the observer. Event A happens at a fixed, definite time *regardless* of when I or anyone else happens to learn of it. *Now* is not some fuzzy, indeterminate property that can be shifted around by light, which is merely a means of communicating information.

If relativity does anything, it merely makes relative the moment when someone learns that a given event happened. Which is completely obvious. Of *course* Bob may learn of event A by seeing it on the news tomorrow, whereas I may learn of it a few minutes after its occurrence, simply because I happened to watch the news a day earlier than Bob. But that doesn't change the fact that event A was, and is, at a fixed, unalterable location within an absolute time.

24.

Reason about time from the viewpoint of Flatland. Flatland is a 2D plane world extending over our time into a 3d block. In other words, it is a dynamically growing 3d block universe. It begins as a 2D plane at some instant of our time, and in the next instant becomes two connected 2D planes, i.e. a 3D block. It continues adding planes successively over our time. Each 2D slice is a complete, conscious universe at each instant of our time, and each plane is connected/related to its neighbors, although a consciousness embedded within each plane does not know its neighbors coexist with it. If we imagine such a universe with a sole being embedded in it, which grows into a complete 3D block until it dies at the most recently-added section, it will continue to exist as a non-dynamically-growing block after the last section is added. Each section will continue to believe it is the present, and make it's choices accordingly. So the entire block will continue to exist as a whole over the course of time, and the life-line of the embedded being will shift from moment to moment. In other words, we would see a sort of shifting 3d snake embedded within the block, a snake that writhes into different positions from moment to moment as each slice, each 2d "present," makes decisions that may differ from the ones it made in the previous instant of our 3d time.

If we view our universe as a 3d block universe embedded in a 4d space, then Flatland is a 2d block universe embedded in a 3d space. In other words, time for a 3d universe is a fourth dimension, therefore time for a 2d universe is a third dimension. But a since there are at least four dimensions, a 2d universe would be subject also to the 4th dimension: it will dynamically grow into a 3d block over our time, with each section continuing to exist even as it grows, and then it will continue to exist statically as a whole over the course of our 4d time, i.e. *not growing*, but internally it will be dynamically shifting as its self-contained contents continually rearrange themselves.

25.

The particle of Time is the *chronon*. Our three-dimensional universe is being bombarded by chronons. Each bombardment propels us deeper into a fourth dimension. When chronons strike the atoms composing matter, that matter is propelled into what we call the future. In other words, we experience the passage of time. Each successive chronon strike propels us another instant into the future, i.e. a bit further in the fourth dimension. Chronons travel through our universe at 186,000 miles per second. When we accelerate, we begin catching up with the chronons. Each successive chronon has to travel further to strike us, and so our movement in the fourth dimension slows. Until finally, at light speed, we have matched the chronons' speed. So no chronons are able to strike us, and thus time does not pass. We are no longer propelled further in the fourth dimension.

Chronons are affected by gravity. Gravity slows their passage through space. Hence under

gravitational influence, time slows down. In a gravity field, the rate at which successive chronons strike matter is reduced due to this reduction in chronon speed.

This whole theory is foolish, you object. Motion is not possible without time, and since chronons are in motion, they cannot cause time to pass. They cannot be used as an explanation for time because time is required to explain their motion, therefore time must be a force external to chronons. Chronons explain nothing, they merely add to an already too complex zoo of elementary particles. But chronons *are time itself*. They are packets of temporal energy. They are moving due to the temporal energy that inheres within them. When they strike matter, they impart a bit of that energy to the impacted matter, sending that matter careening forward in the temporal dimension. We would not be able to move in the temporal dimension without chronons. Our universe would be completely static, the only motion being chronons as they flit around. Fortunately for us, chronons interact with ordinary matter.

Chronons are moving in our familiar three dimensions, but they are also moving in a fourth dimension. That dimension, because it is the dimension through which they are traveling, we call the temporal dimension. The chronons, while traveling any direction in the first three, are only traveling in one direction in the temporal dimension. In effect, in the temporal dimension, they are sort of “raining” from “top to bottom.” If we could reverse a chronon’s direction of travel, we should be able to go backward in time.

Light is a wave in this sea of chronons, a disturbance that ripples through it. Since chronons move at 186,000 miles per second, so does light.

26.

There are certain mystical traditions, and certain New Age type beliefs, which say that the life we are living is an illusion, that each moment of our lives is just a section of a larger, extra-dimensional life which exists beyond time. This line of thought says that, in light of this life being an illusion, we shouldn’t partake of it, we shouldn’t let ourselves get distracted by it.

While I believe that our main selves, our true lives, exist beyond time and that our consciousness at any given moment is just a facet of that larger, invisible-to-us life, I do not believe that it follows that we should not partake of life or be “distracted” by this so-called illusory life.

I believe that the living of this life is crucial to the life of our higher, timeless self. The “I” that is doing the living, that which we call “self” and which we erroneously believe to be the sum total of our being, should not be ignored or denied its full experience of life. To do so is to deaden our higher selves, our true selves. Just as our consciousness, at any given moment, is made up of a sea of individual thoughts and sensations which combine to form our “I,” and the removal of any part whatsoever would lessen or alter the total consciousness of that “I,” so too does failing to live our lives fully lessen or alter the overall consciousness of our higher selves.

So to claim that our lives are illusions to be ignored or dispelled altogether, and to seek such in our lives, is to do a disservice to our higher selves. For all the moments of our lives combine to form our higher selves.

Now, do you think your higher self would rather all those moments which make up itself be composed of a monk spending all his time in a monastery, chanting and trying to do away with his “I,” or would your higher self rather all those moments be composed of a moral life lived well and fully?

Imagine this, though. At any given moment, do you not sometimes choose to focus all your attention on one thought, so that that thought consumes you, engulfs your mind, crowding out all other thoughts? Suppose that your higher self, by focusing on any given moment of your life, becomes that moment, in other words, becomes the “I” of that moment? Your higher self is a diffuse sort of consciousness, spread across all the moments of your life, conscious of all moments simultaneously, as it were, but not focused intently on any one moment. This is analogous to “letting your mind wander.” When our higher self focuses attention on one moment in particular, it becomes that moment, it becomes “I”—it enters into Time. So to break the spell of that moment, we must ignore “I,” we must deny ourselves the partaking of the experience of temporal life. In other words, to return to our higher state, we must “break the spell” of the moment. We must “let our higher self’s mind wander.” That’s what you do when you’re focused on a single thought, isn’t it? You finally decide enough is enough, and move on. You’re engrossed in a good book, but you eventually put it down and move on to something else.

So in a sense maybe the mystical notion of denying the self is necessary.

27.

Think about yesterday as if it were tomorrow, and tomorrow as if it were yesterday. Each, in our experience, seems equally unreal. The only thing that separates the past from the future is memory. We believe that the past has already happened and that the future hasn’t, simply because we remember the past. But when we do our remembering, are we not calling a sort of “ghost experience” into our minds? In other words, do we not, in remembering, summon an experience into our mind that is but a shadow, a pale imitation, of the way in which we solidly experience the present? A memory seems almost like an echo, a sort of “imitation present” that plays out in our mind IN the present. A memory is like our experience of true present, except once removed, sapped of much of the power of PRESENT, a sort of “slick” sensation that can slip away from us in the blink of a thought. THAT is what memory is, and because our mind possesses these “echoes” of what we suppose to be “past,” and doesn’t likewise possess “echoes” of what we call the “future,” we believe that the past is real and solid in a way that the future isn’t. And because of this, our minds orient themselves toward the future. We plan for the future in a way that we don’t plan for the past, simply because we believe the future doesn’t yet exist, as our memory tells us that the past does.

Now, in addition to memory, there is an analogous experience that occasionally plays itself out in our mind, in the same way I've described memory doing in the above paragraph. This analogous experience is a "daydream." These are sort of false memories, that we experience the same way as actual memories, but which we know to be untrue. When we experience a daydream, it has the exact same quality, the same slippery, imitation-of-the-present feel to it, as actual memory. The only difference is that we believe the memory to be a mental reconstruction of a "past" event, and a daydream to be a mental reconstruction of a fictional event.

But could we not possibly free ourselves from our "past to future" mental orientation by training ourselves to believe that the past has not yet happened and that the future hasn't? We could train ourselves to regard memories in the same way we regard daydreams—as flights of fantasy. We could turn our minds toward yesterday, reorienting ourselves in time, by constructing "memories" of tomorrow using our imagination. We could "recall" tomorrow by imaginatively forming a daydream of an experience we HAD tomorrow, and training our minds to utterly BELIEVE that the daydream is a memory of tomorrow. Likewise we would reassign our actual memories to the category of daydreams.

What would such a temporal reorientation of our minds accomplish? Well, the present state of each of our lives is due to past occurrences. If only the present is real, as our senses seem to say that it is, then by utterly believing that the future has already happened and the past is unfixed, we should, if we form a memory of tomorrow and utterly believing it, we should, upon passing into tomorrow, find that our memory is a now-present, real fact. Our reality will have been altered to match our "memory" of it. Life as it had been the day before is now unreal, a memory, a daydream. For, as far as the non-living, non-conscious universe is concerned, only the PRESENT is real, it is all that exists. The universe AS IT WAS or AS IT WILL BE are just daydreams and memories inside our conscious mind. If we firmly believe and regard a present daydream as a memory of the future, then when the successive present seems to arrive, it will match our memory, and any alteration we might have made will not have been an alteration, because AS IT WAS does not exist in the present. Only the present matters, and our conscious minds can shape it as we choose.

All we must do to live in the future exactly as we choose it is to alter our perception of what is memory and what is daydream. The past appears fixed to us because our minds BELIEVE UTTERLY in the reality of our memories. This belief locks us into the reality of our present. Imagine what you would like tomorrow to be, and then BELIEVE UTTERLY in it, as utterly as you believe in memory, and tomorrow will come to be exactly as you imagined it. The past is as unfixed as the future. Only the present exists. Spend your time remembering the future rather than the past and your life will be exactly as you would like.

You are the architect of your own reality. Start designing.

28.

Let's say a space ship is moving at a significant fraction of light speed. Inside the ship is a chamber that holds a perfect vacuum. Has time within the vacuum chamber "slowed down" along with the rest of the ship? In other words, if a person were able (if it were physically possible) to step inside the chamber without destroying the vacuum, would that person suddenly begin aging at a phenomenal rate, i.e. would they suddenly be outside the influence of the relativistic time-dilation?

Common sense would seem to say no, since the vacuum itself is moving at a significant fraction of light speed along with the ship.

But let us then imagine a stationary hollow rail that somehow extends over millions of light years in such a straight line that a ship might race along it as easily as a train races along a track. The center of this hollow rail is a perfect vacuum, the same as the chamber in the previous example. Our space ship is so constructed that the rail passes through the center of the ship as the ship hurtles along at a significant fraction of light speed. The question is, does time within that portion of the vacuum inside the rail that is currently passing through the ship, undergo any time dilation as a result of its being inside, however briefly, the time-dilated interior of the ship?

This is not such a trivial and useless question, with an obvious answer, as at first it seems. Consider: common sense would suggest that the interior of the vacuum chamber inside the ship, moving with the ship, would be time-dilated because it is moving with the ship, while the vacuum inside the railing would experience no time dilation, because the railing is motionless. But there is *nothing* inside the vacuum chamber. It's a perfect vacuum. *Nothing* is being carried along by the chamber. If we say that time inside such a chamber is dilated, we must necessarily be claiming that space itself has substance. Otherwise what we have is basically an absence moving along at the heart of the ship, which is exactly what we have in the second example, with the motionless vacuum at the center of the railing.

The whole point is, what transmits the time dilation into the vacuum of the chamber moving with the ship? If we allow time dilation in the one case and not in the other, we're saying that being in the same space as a time dilation does not induce time-dilation; it is the fact of motion only which induces the time-dilation.

So if acceleration is equivalent to gravity, as relativity claims, how does the presence of mass transmit gravity across space, since as we have just shown by the two examples above, time dilation cannot be transmitted through space, but rather only by motion? And time dilation is an inextricable part of gravity.

Therefore gravity and acceleration cannot be equivalent. If it were, we should not feel gravity when approaching near a mass. Only when we are in direct physical contact with the mass.

We must therefore conclude one of two things. Either:

1. In our first example, the interior of the vacuum chamber moving with the ship experiences **no** time dilation, and a person stepping into it would no longer experience time-dilation, even though that person would still be moving at a significant fraction of light speed.

2.

or

3. In the second example, as the space ship races along the rail, that section of the vacuum at the center of the railing, and indeed the railing itself, which the space ship is currently traveling, undergoes a time-dilation, even though the railing and the vacuum is motionless.

If we accept that acceleration is equivalent to gravity, and we accept relativity as valid, we *must* accept the second conclusion. It is *not* merely motion which causes time-dilation; the mere fact of being in contact with a time-dilated object, or mass, induces time-dilation in a second object or mass, even if that object or mass is stationary.

In other words, it's either the fact of the motion itself, and nothing more, which transmits time dilation; or time-dilation is conducted through space, through a vacuum itself, with no motion necessary. If it's the fact of the motion itself, then relativity is wrong, and our experience of gravity should not be possible. Since such must not be the case, time dilation must therefore be conducted through space, and motion is not necessary. While motion can induce time dilation, the mere act of contact by a stationary object with a time-dilated region can induce time dilation in the object.

Gravity and time dilation can be transmitted, conducted, in the same manner as electricity. Space itself appears to be a poor conductor of gravity, but it should be theoretically possible to find a material that conducts gravity with little resistance, so that the effects of gravity from a star could be transmitted into the depths of interplanetary space with little or no attenuation of strength.

29.

We commonly think of the future as unfixed and malleable, whereas the past is fixed and unchangeable. But the reverse is true, and quantum mechanics (i.e. the double slit experiment) confirms this. The results obtained by quantum mechanics, rather than being baffling, are precisely what we should expect if the past is unfixed and chaotic.

Look at it this way. The past has no physical significance to either the present or the future, since it can no longer affect either one. This is because the bifurcation point of the present is moving toward the future rather than the past.

Think of this illustration: suppose we have a zipper. When the zipper is completely zipped, we have, in

effect, a single integrated line. But when we begin pushing the zipper tab forward, the single integrated line splits into two separate lines.

We can think of the line of time as a zipper. The portion of the zipper ahead of the zipper tab represents the fixed, certain future, with a single, inevitable configuration. The portion behind the zipper tab represents the past, which has become unfixed, with more than one line leading to the future.

The present is the point at which the fixed future unravels into the indeterminate chaos of the past. There are thus any number of possible pasts which can combine to form the single, fixed future. All these possibilities converge at the present, uniting into a single, definite configuration. The present is thus that moment along the length of time that unites the chaotic past into the ordered singularity of the future.

The past is chaotic and unfixed because it can no longer have any effect on the present or the future. It has become irrelevant. The fact that you *remember* a certain configuration of the past, and thus believe that the past must have a single configuration, is also irrelevant. There are any number of paths that the past could have taken as it converged into the present moment. Does the fact that you believe one path is the true path have any impact on the present? No. The present is as it is regardless of how you remember the past.

The future is not unfixed and uncertain. It only appears that way from the viewpoint of the present, sitting as the present does on the point of convergence of the uncertain past and the fixed future. Because we *remember* a certain past leading to the present moment, yet know that that path was only one of numerous possible paths, we *believe* the future to be similarly unfixed and uncertain, and that we have free will. But it is the future that is inevitable, not the past. We have, in effect, already made our choices and brought about our future. It is the unraveling, at the present moment, of that single, fixed, and decisively chosen future into the numerous choices of the unfixed, irrelevant past that gives us the illusion of free will.

30.

According to Relativity, mass and energy are interchangeable. The one can be converted into the other. Now, it seems to me that if something can be either one thing or the other, then they are opposites of one another. You're either ugly, or you're beautiful. Beauty is thus the opposite of ugliness. It follows that energy is must be the opposite of mass, and vice versa. Why then does Relativity consider them equal, " $E=mc^2$ "? If they are opposites, the equation should read, " $E = -(mc^2)$."

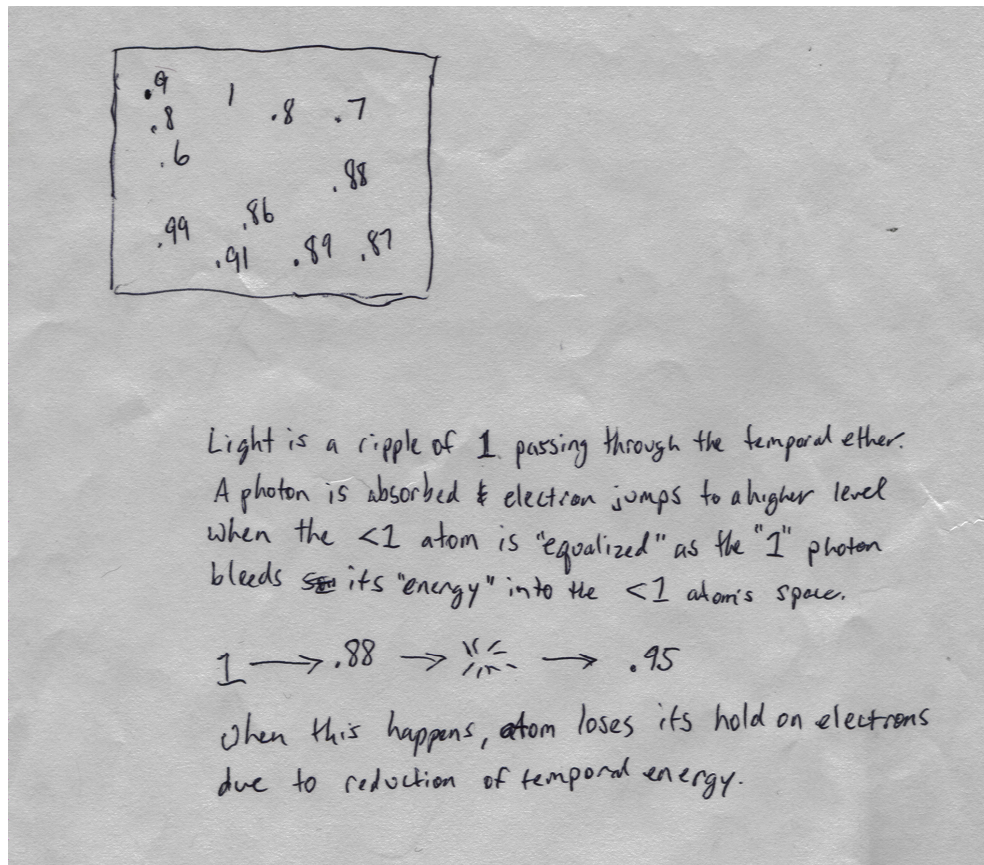
But what can it mean, to say that something has negative mass? Something can't have negative mass, so my contention is ridiculous. But in this case, the negative sign does not mean *negative* mass. It means, rather, an *absence* of mass. It's perfectly plausible to us for something to have an *absence* of mass. Thus the equation means that as a mass is accelerated toward light speed, it begins to lose mass, not gain it, as has been the conventional understanding. The mass is converted into its opposite, energy. To say that

something gains infinite mass as it approaches lightspeed is obviously an impossibility; therefore this has been interpreted to mean that light speed cannot be achieved or surpassed. But this interpretation has been in error. Mass does not gain mass as it accelerates; its mass is converted into energy. Since its mass does not increase, infinite energy is not required to accelerate a mass to light speed.

Energy and mass are not equivalent, as accepted theory says. They are opposites, and as each is converted to its opposite, it loses its original properties and takes on those of its opposite.

Notes on Paper

The following section contains notes I jotted down, that I was either too lazy to type into this manuscript, or felt that they were more interesting leaving them exactly as they were written. Regarding the "equations" which I attempted to formulate in these notes: yes, I am aware that if you try to plug actual numbers into them, the units obtained probably do not make any sense. For example, attempting to multiply or divide density by velocity as I have would lead to an answer such as "m/s/kg/(cubic meter)," which is clearly nonsensical. So when reading these "equations," keep in mind that they were not meant as final, mathematical expressions which I am seriously putting forth; rather regard them as seeds of ideas I was exploring, or avenues of thought I was considering. They may actually be a starting point that could lead to something; I don't know. These were merely brief little side trips I took as I was working on the other essays in this book. I really didn't give the following notes much thought at all.



$E=mc^2$ violates law of
conservation of energy,
 $E+mc^2=1$ doesn't

$$\frac{1}{\text{expansion velocity} + \text{local velocity}}$$

$$t = 1 -$$

$$t = \frac{1}{\frac{\text{expansion velocity}}{\text{expansion velocity}} - \frac{\text{local velocity}}{\text{expansion velocity}}}$$

$$t = 1 - \frac{\text{local velocity}}{\text{expansion velocity}}$$

$$t = 1 - \frac{\text{local density}}{\text{original universe density}}$$

$$\text{expansion velocity} = \frac{(\text{local velocity})^2}{\text{expansion velocity} (\text{local density})^2}$$

$$\text{local density} = \text{original universe density} \left(\frac{\text{local velocity}}{\text{expansion velocity}} \right)$$

$$\text{original universe density} = \frac{(\text{expansion velocity}) (\text{local density})}{\text{local velocity}}$$

$$\frac{\text{KM/S/MP}}{\text{KM/S}} = \frac{\text{KG/C}^3}{\text{KM/S}}$$

$$\text{expansion velocity (Hubble's constant)} = \frac{(\text{original universe density}) (\text{local velocity})}{\text{local density}}$$

Universal time = rate of universe expansion

The universe cannot expand without time. And beyond the outer boundary of the universe time does not exist. From this it follows that time expands at the same rate as the universe expands. If we take the standard model of the universe (the Big Bang) the universe begins as an ultra-compacted mass that explodes outward, ever expanding. In other words, its density decreases over time, ~~t = A~~ which yields the statement $\frac{\Delta d}{t}$. The universe is expanding in three spatial dimensions =

in other words a sphere, whose diameter constantly increases. For our purposes, we don't need 3 dimensions. Since the universe is expanding uniformly in all directions, all that is necessary is to take the radius. The universe then begins as a point, and at some later time ~~expands~~ expands to a line. The universe can thus be seen as a point that changes position over time.

$t_0 \rightarrow t_1$ This growing line is a velocity. This yields

the equation $\text{velocity} = \frac{\Delta d}{t}$. From this we can see that the rate at which time flows in the universe is given by the equation $t = \frac{\Delta d}{\text{velocity}}$



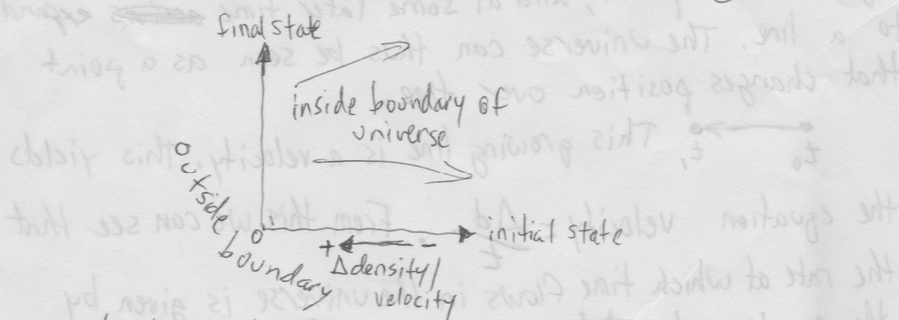
ie time equals the rate at which the dot moves from left to right. (which represents the expansion of the universe)

$t = \text{velocity}$

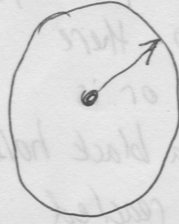
From outside the universe, the boundary of the universe goes from its min to max, with zero time in between:

It exists in both states at once. i.e. no change in density. Ad only occurs inside boundary, where time "passes"

From inside the boundary of the universe, the amount of time between $\bullet$ and $\bigcirc$ depends on the velocity of a given reference frame, as well as the density of that frame. Greater density or higher velocity means less subjective time passes between $\bullet$ and $\bigcirc$.



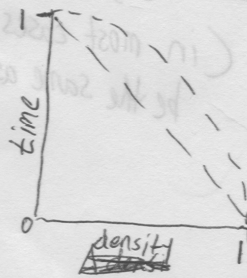
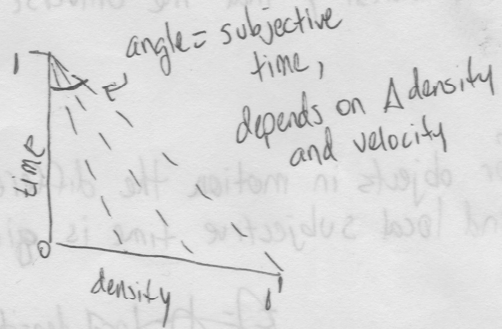
objects further from 0 will experience a greater amount of subjective time between initial and final. Acceleration moves object further toward 0 and hence will sweep out a lesser curve as line moves from initial to final (unless subjective time)



outward expansion will always be constant,
but the amount of time experienced between
, and) depends upon your state of motion
or your change in density

Everything in the universe is expanding
at the same rate as the universe, even if
you appear to be stationary. If an object
accelerates, it attains a velocity greater
than that at which the universe is
expanding, and thus that object will be
moving faster than time. Consequently
the object experiences LESS subjective
time than would a stationary object.

This is analogous to
a person walking along
a moving sidewalk;
the surroundings (time)
seem to rush past that
person faster than they
would to a person walking
on a non-moving sidewalk.



$$(\text{density})^2 + (\text{time})^2 = \left(\frac{\text{velocity through}}{\text{time}} \right)^2$$

In local cases, say we have a stationary mass, say a star. If we keep its volume constant but keep adding mass to it, eventually its density will equal that of the universe. In this case, locally, the change in density from t_0 to t , will be zero - there is no change in density. Hence, no time has passed or is passing. Thus, when a star collapses to form a black hole, time ceases to pass because the black hole has reached the density that the universe had at its start.

For objects in motion the difference between the universal time and local subjective time is given by

$$t = \frac{\Delta \text{universal density}}{\text{expansion velocity}} - \frac{\Delta \text{local density}}{\text{velocity of local object}}$$

(in most cases $\Delta \text{local density}$ will be the same as $\Delta \text{universal density}$)

for moving, static masses:

$$t = \frac{\Delta \text{universal density}}{\text{expansion velocity}} - \frac{1}{\text{velocity of local object}}$$

correct equation

for "stationary," changing masses (ie. collapsing stars, etc.)

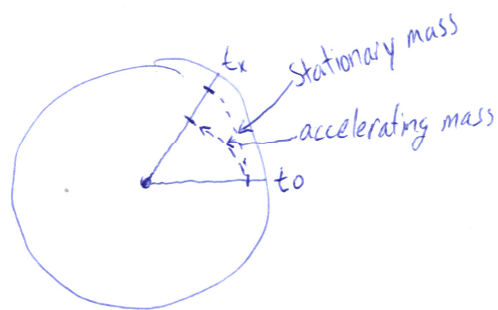
$$t = \frac{\Delta \text{universal density} - \Delta \text{local density}}{\text{expansion velocity}}$$

$$t = \frac{\Delta \text{universal density}}{\text{expansion velocity}} - \frac{\Delta \text{local density}}{\text{expansion velocity}}$$

$$t = \frac{\text{original universal density} - \text{local density}}{\text{expansion velocity}}$$

$$t = \frac{\text{original density}}{\text{expansion velocity}} - \frac{1}{\text{expansion velocity}}$$

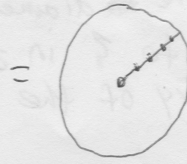
velocity in the case of the expanding universe is equal to change in density over time - $v = \frac{\Delta d}{t}$. If we measure this change in density from outside the universe, time is effectively zero, so the Δd is undefined, since we're measuring the ~~the~~ diameter of the universe, which goes from ≈ 0 to ∞ in zero time. (Time only "passes" within the boundary of the universe).



The only measure of time we need is the change in the density of the universe. Measured from inside bounds of universe the Δd is the difference between universe's initial and final diameter. "Time" from initial to final depends on the state of motion of reference frame from which measurement is made (measurement of the rate of expansion of outer boundary i.e. Hubble's constant)

velocity of universe's expansion - ~~velocity of~~ a mass = "rate" of time's flow in mass's reference frame.

$$1 - X =$$



the less the difference, the closer mass is to center of circle. "Rate" of time's flow is equal to circumference swept out by point on radius.

density of universe - density of a given mass = "rate" of time's flow in mass's reference frame

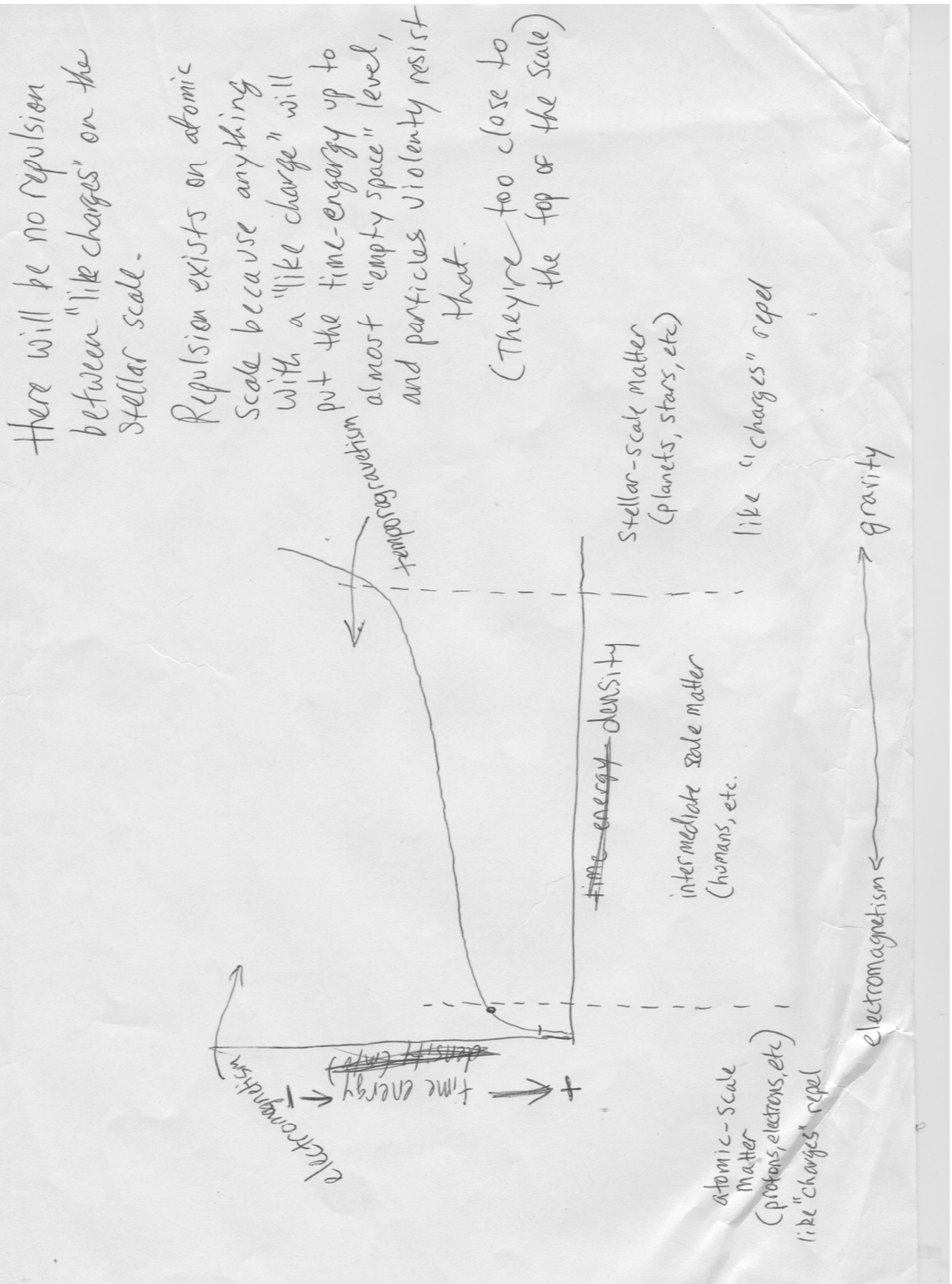
$$1 - X =$$

multiplication?

$$1(X) =$$

A stationary mass's density is increased by adding more mass while holding volume constant.

A mass's density may ~~also~~ be ^{reduced} ~~increased~~ by accelerating (increasing) mass's velocity. This has the effect of spreading the object's mass across a greater area of 4-space, as opposed to the object staying stationary, thereby confining its mass to a small 4-space volume.



As the resolution of my time sense increases,
 - as my specious present decreases in duration -
 fast motion becomes more defined - ie a rapidly
 moving hand will appear less blurred, the position of
 the hand more definite - the "wider" is my specious present,
 the more solid will the blurred path of the hand appear - ie.
 the entire path of a fast moving object will appear to be
 one whole object, spread out across space - a more "narrow"
 specious present confines the moving object to an increasingly
 smaller region of space

When time becomes dilated, our specious present
 is widened - thus the outside universe passes
 in a blur,

Afterward

A lot of scientists get upset when people question the validity of Relativity. Why pick on Relativity? they ask. It's been tested and confirmed over and over for decades. It's correct. How can anyone even imagine that it needs to be challenged? The only reason there can possibly be for your challenging it is that you don't truly understand it.

Believe me, I do understand Relativity. You might not believe that, after reading some of the things I've written in this book. Just take it on faith that I do understand it and that I'm not an unintelligent person. Why then should I challenge it? A million physicists can't possibly be wrong.

And yet, I find it strange that those same physicists can look at something like Christianity and say it's superstition, it's a self-perpetuating mass delusion, an ignorance that's been handed down through the centuries. True believers would say a million Christians can't possibly be wrong. Nonsense, the scientists say. Christians are merely caught up in a self-perpetuating superstition.

Why can't physicists look at their own theories and concede that such a situation could be happening within mainstream Science itself?

They can stand on the outskirts of Christianity and say, "Look at what you idiots believe? Why can't you foolish people question your beliefs?"

But physics can say such a thing precisely because they *are* outside Christianity. It takes a heretic, or someone completely unassociated with an institution, to recognize that the beliefs of that institution may be incorrect. Someone indoctrinated in the beliefs of that institution are inherently unable to adequately examine and question those beliefs. They're too close to those beliefs to be objective. Such is true of the zealot Christian, and it's true of the zealot physicist.

Is a true believer in Christ able to stand up and ask, "What if Mary was a slut who got pregnant and lied to her husband to cover it up?" Is a true believer in mainstream Science today able to stand up and ask, "What if Relativity set us on the wrong course and is stifling scientific progress?"

Of course not. Such questions fall within the realm of the heretic, of the crackpot, of the blasphemer. Only they can properly ask them, and only they can adequately answer them.

Call it a hunch. But Relativity just doesn't "feel" right to me. A detective happening upon a crime scene can look at the crime and come up with an explanatory scenario that fits the crime. But that doesn't mean that the detective has deduced what truly happened during the commission of the crime. Another detective looking at the same crime scene may come up with a completely different, equally plausible scenario. Both scenarios may work as an explanation for the crime, but only one, or possibly neither, may be correct. Such with Relativity. I look at it, and I have a "hunch" that it's not the correct scenario. It just doesn't "feel" right to me. I don't believe it's explaining all aspects of the crime, so to speak.

I'm willing to think along avenues that may end in foolishness, simply because, by doubting

Relativity, I'm *able* to think along such avenues. I don't care if my speculations are taken as indications that I don't really understand Relativity. I know there are a lot of places in these speculations that are really stretching credibility. But so what? Stretching what credibility, anyway? Scientific credibility, or my "understands Relativity" credibility? And it's not like I have any scientific reputation to protect. I don't have to consult with the scientific church's elders before I start spouting what they might consider heretical ideas. I don't have to go through "peer review" to ensure that my ideas are within the bounds of accepted scientific dogma. My ideas haven't been filtered through a committee to ensure they don't offend scientific sensibility. This book is simply raw, wild speculation by someone who enjoys such a pasttime. I myself might not believe the validity of many of the ideas put forth in this book, and I'm aware that they're riddled with inconsistencies and perhaps errors of logic. But who cares? Speculation hurts nothing, no matter how erroneous; it's exhilarating. And perhaps one of these ideas might turn out to be the seed that will grow into the tree of truth and understanding. I believe such wild speculation, even by people not well-versed in science, is the key to the advancement of our knowledge. I'm not afraid to blaspheme against Einstein, and possibly embarrass myself doing so.

And if the ideas of a crackpot seem strange, whacked out, or utterly foolish to a reader, it's quite possibly because such a reader is using the same theories against which the crackpot is rebelling as a measuring stick for the crackpot's theories. But, if one doubts the correctness of Relativity and mainstream physics in general, then speculation as to alternatives becomes a completely open game. No theory put forward can be too strange or whacked out. And it will only appear strange and whacked out to someone with a preconceived notion of correctness. Someone deeply indoctrinated by mainstream theoretical science and who, despite having a supposedly open mind, is unwilling, even unable, to venture far beyond familiar, comfortable, well-worn territory.

Sure, I'll listen to a "legitimate" physicist's opinion, I'll read his papers or books. But I take it all with a grain of salt, because I know he's biased. Bias is inherent in everything human in this world, even in the interpretation of scientific data. It's naïve to think otherwise. A scientist is biased in the questions he asks and in the way he looks for answers to those questions.

This is not to deride the scientist, or to be negative, or cast aspersions on his accomplishments; it is simply human nature.

Books That Made Me Go, "Hmmm."

I've read *a lot* of books on the subject of Time. The following is a list of the best of all those I've read, what I consider to be the cream of the crop, in no special order. And just because I consider them the best doesn't necessarily mean I agree with their conclusions; just that their ideas were well presented, in a way that really "made me think." If you're interested in the subject of Time, I highly recommend picking up copies of these.

About Time, Paul Davies

An Experiment With Time, J.W. Dunne

The Serial Universe, J.W. Dunne

The End of Time, Julian Barbour

Time and Free Will, Henri Bergson

Duration and Simultaneity, Henri Bergson

Living Time, Maurice Nicoll

Time's Arrow and Archimedes' Point, Huw Price

Travels in Four Dimensions, Robin Le Poidevin

Tertium Organum, P.D. Ouspensky

Time and Space, Barry Dainton

Time and Eternity, William Lane Craig

The Big Bang Never Happened, Eric J. Lerner

Black Holes and Time Warps, Kip S. Thorne

A Journey Into Gravity and Spacetime, John Archibald Wheeler

Einstein's Universe, Anthony Zee

In the Grip of the Distant Universe, Peter and Neal Graneau

Newton versus. Einstein, Peter and Neal Graneau

Galileo was Wrong, the Church was Right, Volume 1, Robert Sungenis

Science at the Crossroads, Herbert Dingle

And of course, *Relativity*, Albert Einstein